

JANUARY 1910 ~ N° 49

Issued Every Month

for Free Distribution to all Users
of Machine Tools

HITCHCOCK'S MACHINE TOOL LIST

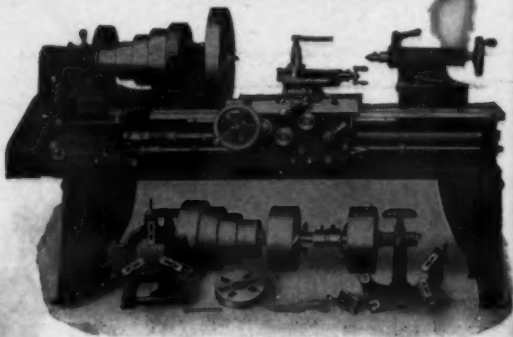
A Reference Book for Buyers
of Iron Working Machinery

Published by
A. H. HITCHCOCK
626-627 Monarch Block
Chicago

Champion Tool Works Co.

2426 Spring Grove Ave.

Cincinnati, Ohio, U. S. A.



18-Inch Quick Change Lathe

The **Quick Change Gear Box** on the **Champion Lathe** gives **40 changes of feeds and threads** without the removal of a gear. None of the 40 changes are duplicates, and are made with ease and the greatest rapidity while the lathe is running. One lever accomplishes 8 changes. One movement of the gear box dial, or the push pin, changes the range again for all threads and feeds. No extra levers to tighten or loosen, or quadrants to engage or disengage and adjust, which would require as much time as to change gears in the old way.

The Champion does it quicker and better
All gears are completely covered

*Write for the **CHAMPION** Catalogue
of Lathes*

10, 12, 14, 16 and 18-inch Swing

T
grea
econ
chuo

THE
C L
Branch
Chicago



THE "Acme Automatic" in your shop for this year will mean more parts at a lower cost, less labor, greater convenience, and maximum economy with greater prosperity.

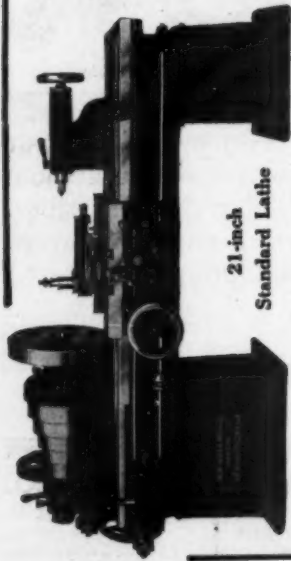
Built in sizes $\frac{1}{4}$ " to $2\frac{1}{2}$ " diameter, chuck capacity.

MULTIPLE SPINDLES
SINGLE DRIVE

THE NATIONAL-ACME MFG. CO.
CLEVELAND :: :: OHIO

Branch Offices: New York, 77 White St.
Chicago, 549 Washington Blvd.

Boston, 141 Milk St.
Atlanta, Candler Bldg.



21-inch
Standard Lathe

A Good Lathe at a Low Price

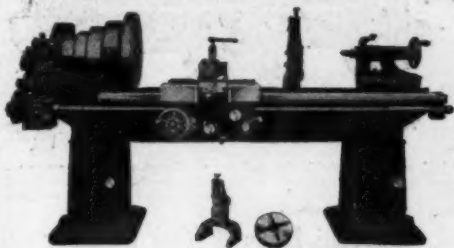
"New Haven Lathes" are made in sizes from 18 to 65-inch swing, the 18 to 36-inch inclusive being carried in stock.

The above illustration shows our moderate-priced lathe, made in sizes 18, 21, 24 and 36-inch, designed to meet the demand for a powerful, rapid, accurate, durable tool for medium work. It is the embodiment of simplicity. It has powerful feed works, four instantaneous changes of feed, special bronze headstock bearings, and the "New Haven" standard of material and finish throughout.

Let us figure on that lathe you need—small or large—a low-priced lathe for medium work or a high-power tool for the heaviest service. They are all strictly modern tools, with the experience of over half a century behind them and built into them.

New Haven Manufacturing Co. - New Haven, Conn.

Compare The Schellenbach Lathe With All Other Lathes



Made to swing 14-16-18-20-inch. Any length beds.

Compare it for Convenience
Compare it for Improvements
Compare it for Design
Compare it for Workmanship
Compare it for Capacity
Compare it for Price

Also made with quick change, geared head, oil pan, draw-in chuck—and taper attachment.

The John B. Morris Foundry Co.
Cincinnati, Ohio



Cincinnati Lathes

fulfill every reasonable demand for maximum service in every respect and at minimum cost. Supply either our **Quick Change Gear Box** or another **Feed** that has an unlimited range. Better compare their details before buying.

Cincinnati Lathe & Tool Company

2730-32 Spring Grove Avenue, : : : Cincinnati, Ohio

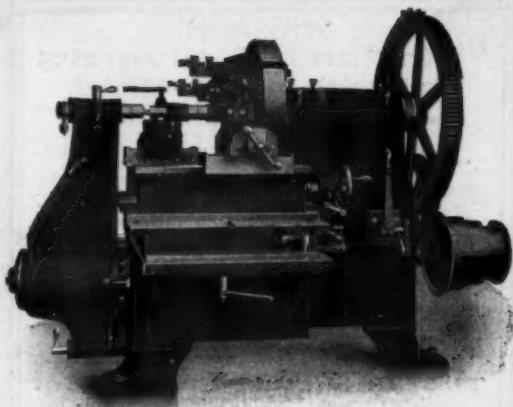
INDEX PLANER CENTERS OF IMPROVED DESIGN



Three sizes, to Swing 13, 20 and 36 inches

For fluting rolls, planing gears, or any work which has to be carried on centers to be planed or milled, or which requires to be accurately spaced. A most valuable feature is that the index plates, which are of large diameter, are cut through, like a gear tooth, which permits the use of a much stronger pin than is possible with a drilled plate. Work and index plate turn together, with a worm and gear, which are readily disengaged when not required. The tail stock center is inserted in a block, adjustable up and down, for planing bevels or tapers. Easily attached to any planer. Special index plates for any work required.

FAY & SCOTT, Manufacturers, Dexter, Maine
Specialists in Lathes and Turrets



The Streit Pulley Lathe

Does the work of

3 Ordinary Lathes

In Finishing

Pulleys, Gear Blanks, Fly Wheels and similar work

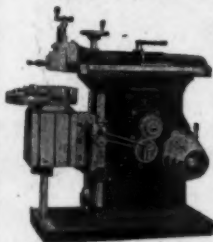
Not only cuts time and labor

but saves equipment and floor space

CONSIDER! Tool slides on both front and rear rails. One side equipped with power cross feed, permitting two tools to face both sides of gear or fly wheel while tool on other rail takes a cut across top—three cuts simultaneously.

The Cincinnati Pulley Machinery Co.
Cincinnati, Ohio

Why Are "Cincinnati" Shapers The Best at the Price—or at any Price?



No. 1610—16 in. Rack Geared

Judge them by their design and construction—therefore by the service they give—and logically they should be the highest-priced shapers made.

But we have a manufacturing equipment and shop organization that cost us a lot of money to begin with, which, however, has given us increased efficiency and decreased production cost that justifies us in selling more actual shaper-service for the price—or at any price—than can be secured any other place on earth.

Our Free Shaper Book tells
how we make them

The Cincinnati Shaper Co.

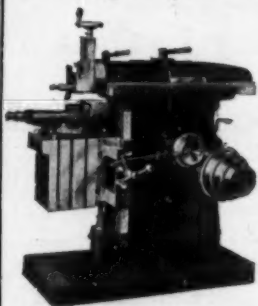
Colerain Ave. and Elam St., CINCINNATI, OHIO

Plain and Rack Geared Crank Shapers, Geared Rack Shapers,
Open Side and Traverse Shapers.

Steptoe Shapers

are

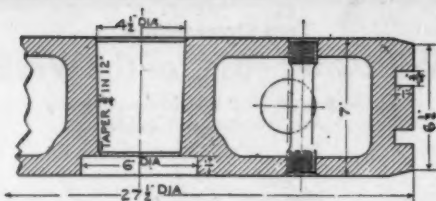
Economical



because they will take good, hard, big cuts and do it for years, due to the fact that the column, ram and base are heavily ribbed and braced

The John Steptoe Shaper Co.

Cumminsville, Cincinnati, Ohio



Locomotive Piston

Finished all over 1 1-2 hours

Lathe Time - - - 3 1-2 hrs.

Boring Mill Time - - 2 1-2 hrs.

Horizontal Turret Lathe Time 2 1-4 hrs.

Vertical Turret Lathe Time 1 1-2 hrs.

Does a machine tool that makes such a reduction in time and cost on work of this nature appeal to you?

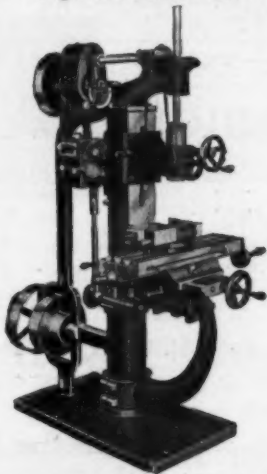
New Book V-15, illustrates a varied line of work on which

The Vertical Turret Lathe with its **universal adaptability** has made **as great** an increase in production and decrease in cost.

The Bullard Machine Tool Co.,
Bridgeport, Conn., U. S. A.

**Two Operations
With One Setting of the Work**

**Drilling or Boring and Milling, at any
Angle to Plane of Table**

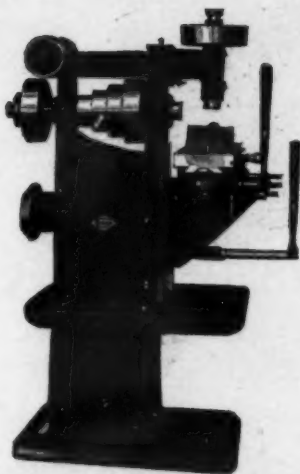


The Knight No. 2 Drilling and Milling Machine

A combined drill press and vertical miller that for a large variety of work will save from 20 to 50 per cent of the time required with separate machines. The tilting table, which is quickly and accurately adjustable, permits boring and milling to be done at any angle without resetting the work. A larger and more powerful machine of the same type as our No. 1, which is well known as a tool of exceptional convenience and economy for light work of this character. A complete description of this machine, and of the work it does, will interest any up-to-date manufacturer.

Will you do us the favor to write for it?

**W. B. Knight Machinery Company
St. Louis, Mo.**



Chicago (Duplex) Hand Miller

No. 3 Machine with Vertical Spindle in place.

Automatic Lubrication permits high speeds for brass work.

Horizontal and Vertical Spindle bearings self-oiling.

Self-oiling Countershaft.

Chicago Machine Tool Company
127 N. Canal St., Chicago, Ill.



Accurate Combination Chucks

with Skinner patent reversible jaws. The chuck for the next lathe.

The Skinner Chuck Co.

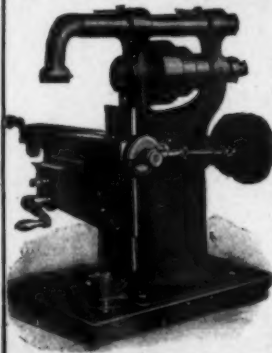
90 N. Stanley St.,
New Britain, Conn.,

94 Reade St.,
New York City

Builders of a complete line of Chucks

Burke's Bench Miller

A Seasoned Tool



The tool to buy if you want extreme accuracy and permanent alignment five years hence as well as now. In making this miller the greatest care is taken thoroughly to season all castings both before and after machining. We carry these frames and parts from six to eight months after work begins on them before the final finishing is done. The result is a tool that is accurate and will stay accurate as long as you use it. For precision work it has no equal.

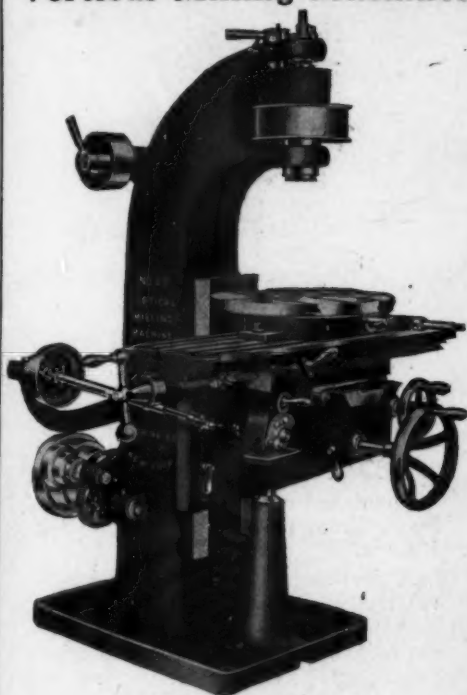
Longitudinal feed, 84 in.;
traverse feed, 4 in.; vertical
motion of knee, 84 in.;
table surface, 34x16 inch.

BURKE MACHINE CO.

Conneaut, Ohio

No. 4 Milling Machine

**Garvin No. 22
Vertical Milling Machines**



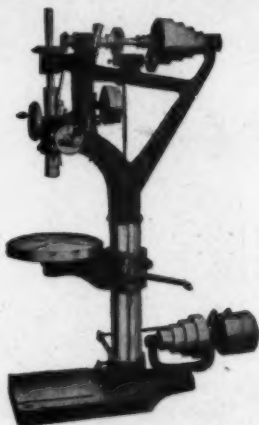
Adjustments 24"x7"x30"

IMMEDIATE DELIVERIES

Manufactured By

THE GARVIN MACHINE COMPANY
Spring and Varick Sts., New York City

Accurate Machine Tools



Davis 20-Inch Drill

Furnished with Back Gear, Power Feed, Automatic Stop and Quick Return.

A first-class high-grade tool at a reasonable price.

Orders can be sent to us direct or through leading machinery dealers in all parts of the world.

For further particulars address

The W. P. Davis Machine Co.

Rochester, New York, U. S. A.

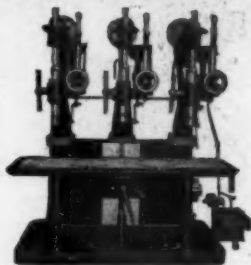


For Drilling With High Speed Steel

This new 24-inch swing High Duty Drill, with a capacity for drills from $\frac{1}{8}$ in. to $1\frac{1}{4}$ in., drives high speed steel drills to their limit in solid steel. Its strong, rigid construction is clearly shown in cut. Spur gears are used entirely, except 1 pair of 2 to 1 bevel gears, and everything is driven in a straight line, with the result that practically *all* the power is transmitted directly to the drill point. This machine is reasonable in cost and it easily excels all other types in efficiency. Details?

The Foote-Burt Company,
Cleveland, Ohio.

Rockford Gangs

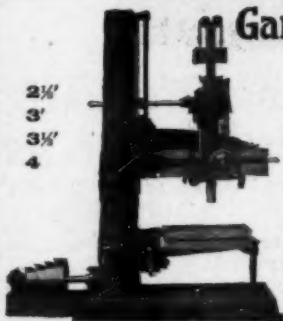


They not only drill, but they bore, ream, tap and face without removing work from jig.

Write for descriptive matter

Rockford Drilling Machine Company
Rockford, Ill., U. S. A.

Gang Radials



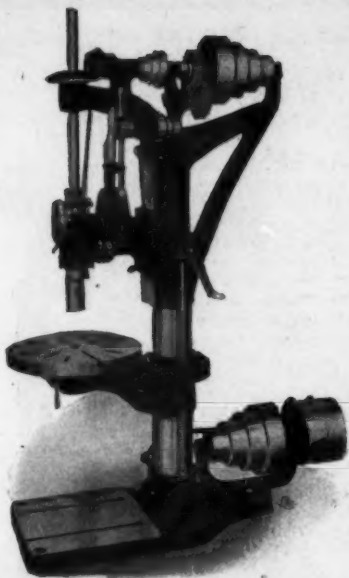
2½'
3'
3½'
4

An easy swing to the radial arm, which is firmly clamped in position by a slight movement of a lever; a deep base, enclosed gears, single-lever control of all spindle movements, three feeds, eight drilling speeds—12 speeds with speed box—are some of the features of Gang Radials.

Want full description?

The Wm. E. Gang Company
Cincinnati, Ohio

An
drill.
absol
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HÆFER Sliding Head Drill

24-inch, with Belt Feed

An accurate drilling machine for shops requiring a medium size drill. As in all our drills, the parts are ground or scraped to an absolute fit, or finished on special tools of our own design which insure a degree of accuracy not usually attained in machines of this type. The sliding head is scraped to the column, so that the spindle is in perfect alignment therewith, and square with table and base in any position. The rigid support of the back gears, and the large diameter of the pulley and crown gear, are features of significance to those who look for durability as well as efficiency in operation. We make stationary and sliding head, multiple spindle and gang drills, horizontal and vertical boring machines, for every possible requirement, and we guarantee them to the limit. The buyer of one of our machines takes no chances.

HÆFER MFG. CO. 116 Jackson Street
FREEPORT, ILL.

For Rapidity and Accuracy

The "Willey" Sensitive Drill **ELECTRICAL FRICTION DRIVE**

*Is the Handiest
on Earth*

Requiring no belt or counter-shaft, it may be located wherever most convenient for the work in hand, and shifted in a minute without trouble; it is often a great saving to be able to move a machine to its work. The direct drive from motor to friction disc; the spring-counterbalanced spindle; the ball bearings for spindle thrust and friction disc; the weight-counterbalanced table, arranged to swing on the column; the index line for centering the table at any point; the finished boss on the base, under the spindle, for centering long shafts;—these are features which combined with the "Willey" perfection of material and construction, make a sensitive friction drill that for work within its range—holes $\frac{3}{8}$ in. and under—has no equal in speed, economy or convenience.



**IT IS ONE OF OUR ELECTRICALLY DRIVEN
SPECIAL TOOLS FOR MACHINE SHOPS**

Time Savers—Power Savers—Money Savers

If you have a light or power circuit, our complete catalogue will interest you—Free for the asking.

Jas. Clark Jr., Electric Co.

**Incorporated
LOUISVILLE, KY.**

Fox

**MULTIPLE
SPINDLE**



Fox

**DRILLING
MACHINES**

No. 2 Round Head

We make Multiple Drills for all kinds of drilling. Send sketch or blue print for estimate of machine adapted for your work to the

Fox Machine Company
1301 N. Front St., Grand Rapids, Mich.

FOR HIGH SPEED DRILLS

The New Williamsport Quick Change Speed

An Improved 14-inch Friction Drilling Machine, the spindle of which starts and stops automatically as the handle is moved up or down in operation

The quick change feed arrangement is new, exceedingly simple, and thoroughly effective. The shifting driving wheel, which works to and from the center of a friction disc, is connected to the feed lever in such a way that a slight movement of the latter to the right or left, increases or diminishes the spindle speed. This enables the operator instantly to vary the speed of the drill as the work requires, which not only saves the breakages due to improper spindle speeds, but also adds greatly to the amount of drilling that can be done in a given time. Its ability to drive high speed drills satisfactorily has been proved by the severest tests.

Its superior economy and effectiveness merit careful investigation

Villinger Mfg. Co., - Williamsport, Pa.



The Best By Test

Air Cooled



Made in Seven Sizes

3-16 in., $\frac{1}{4}$ in., $\frac{3}{8}$ in.,
 $\frac{1}{2}$ in., $\frac{3}{4}$ in., 1 in., and
1 $\frac{1}{4}$ in.

In Steel

Center Grinders from 1-4 to 2 h. p.

Surface Grinders

Sent on trial

The United States Electrical Tool Co.
CINCINNATI, OHIO.

Drill : Power Hack Saws Presses

When our tools are installed in your shop, your livertrouble stops. In fact, you soon discover that you have the *very best* tools for saving time.

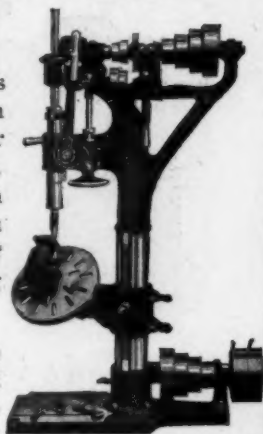
Our Drill Presses are made of the best material, with the highest grade of workmanship, and with a few new kinks to save time and insure accurate work.

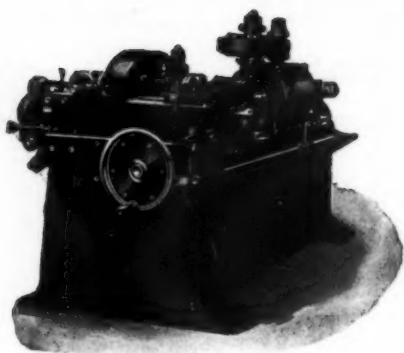
Our Royal Power Hack Saws are made in all sizes, to cut hard or soft metals—rounds, squares or structural shapes.

Ask your dealer to show you this tool
or write for circulars

Frontier Iron Works

Cor. Grant and Letchworth Sts.
Buffalo, New York





A Manufacturing Tool

For Cutting

Spur Gears

Worm Gears

Worms

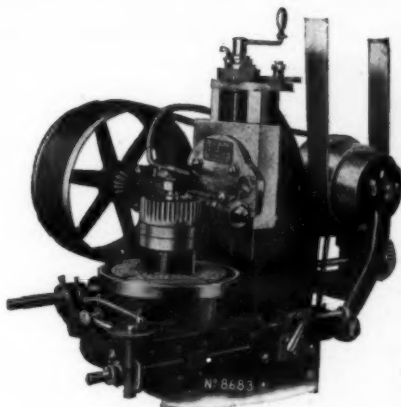
Spiral Gears

Rapid Rigid Accurate

The Lees-Bradner Company

Cleveland, Ohio, U. S. A.

Gear Hobbing Figures



ONE of our customers is cutting his gears for 6c per set, whereas they formerly cost \$1.16. Another saved the cost of the first machine in two weeks and now has four more.

These figures may sound strong, but we are prepared to show what can be done on your own work.

*Our circular No. 802-H is
full of interesting details.*

The Adams Company
803 2nd St., Dubuque, Iowa, U. S. A.

CRANES AND HOISTS OF ALL TYPES



"Armington Hoists"

have the fewest working parts of any electric hoist on the market.

They are simple and durable, built for severe and continuous service.

Our designs will please you, and our prices are right

The Euclid Crane & Hoist Co.
Euclid, Ohio

Lifting Costs Less With The Canton Portable Crane & Hoist Than With Main Strength and Awkwardness



It saves time

Makes work easier

Keeps things moving

Besides being the handiest thing in the shop, it is the biggest economy, because the time it saves costs at a high rate. We made the first one for ourselves: it was so much better than any we could buy, our friends wanted some—and their friends, and theirs. Everybody wants it who runs a shop where there is lifting and moving to be done. If one isn't quite sure, we send him a crane on 30 days' trial, and let him judge from his own experience. Commonly he orders a few more.

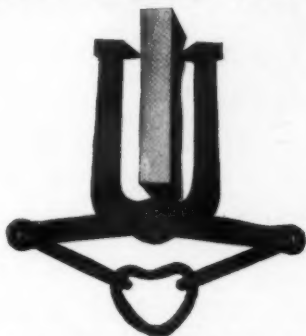
You can have one on trial, or a booklet, just as you say

The Canton Foundry & Machine Co., Canton, O.

LIFT

With

Cisco Hoist Holder



An appliance of unlimited use

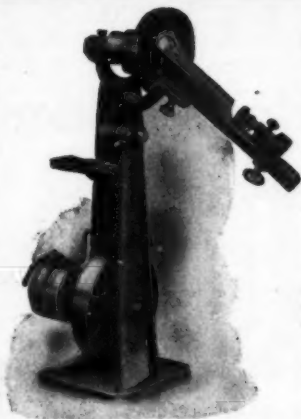
Made in four sizes

Used
By

{ Contractors
Machine Shops
Millwrights
Electricians
Steam Fitters
Farmers
Painters

For sale by your Supply House or Hardware Dealer
or address direct

The Cincinnati Iron & Steel Co.
Cincinnati, U. S. A.
Machinery of all kinds



ONE! TWO!

That's all the adjustments it takes before you are ready to grind your drill.

It takes just about as long as to count two, too.

And a bright boy can do perfect grinding if you use a

NEW YANKEE DRILL GRINDER

If you are prejudiced against drill grinders, it's probably because you've seen the other kinds, where you have to caliper each size of drill and make a dozen adjustments before you are ready to do your grinding.

A New Yankee saves time in grinding over hand work; saves breakage and wear in drills; increases the speed of drilling work and insures its accuracy.

Let us talk it over with you. They cost only a trifle. We also make superior and convenient

SURFACE GRINDERS

and

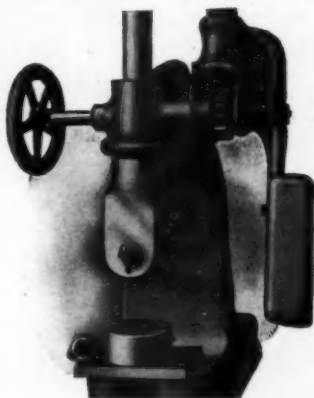
CUTTER AND REAMER GRINDERS

Catalogues free

Wilmarth & Morman Company,
575 Canal St., Grand Rapids, Mich.

A Greenerd Arbor Press

can be fitted up for doing 99 different kinds of jobs in manufacturing. Perhaps you can think of the 100th.



This shows an idea which is simple, cheap and effective.

It will pay you to look around to see if there is not some job which ought to be done quicker, better and easier.

The price of Greenerd Arbor Presses is cheap.

Edwin E. Bartlett

336 A Street,

- Boston, Mass.

**Exceeded our customer's
expectations to a con-
siderable degree.**

One of our customers writes:—

"Allow us to state that your machine is doing absolutely perfect work, and we are very highly pleased with our purchase, as it has exceeded our expectations to a very considerable degree. You ought to sell a machine to everybody who has any riveting to do."

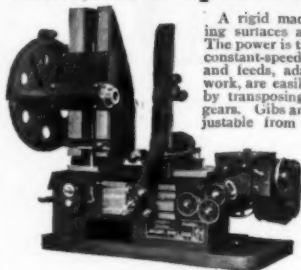
The Grant Rivet Spinning Machine spins a perfect head on any rivet in one second, is noiseless, and has a capacity up to $\frac{3}{8}$ -inch rivets.

Catalog?



**The Grant Mfg. & Machine Co.
Bridgeport, Conn.**

**A Powerful and Accurate
Automatic Spur Gear Cutter**



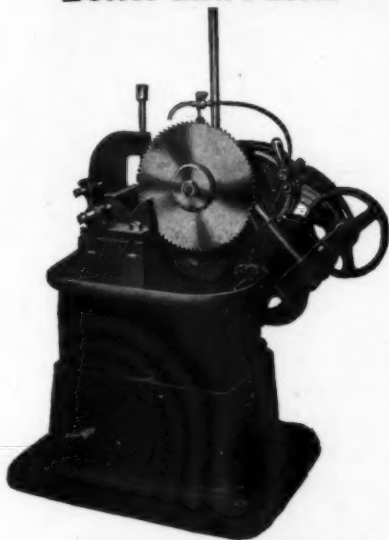
A rigid machine, with large wearing surfaces and simplicity of parts. The power is transmitted through one constant-speed pulley. Various speeds and feeds, adapted to all classes of work, are easily and quickly obtained by transposing conveniently located gears. Gibs are of the taper type, adjustable from the ends; shafts and spindles are accurately journaled in bronze bearings. The movements are all automatic, and each movement must be complete before the next one can take place.

Description and interesting price upon request

**The Cincinnati Gear Cutting Machine Co.
Colerain Ave. and Elam St., Cincinnati, Ohio**

Cochrane-Bly Cold Saws

Will cut your stock
Better and Faster



No. 2-4-in. capacity

A powerful tool for continuous service. Vise has removable blocks for holding rounds, squares, etc. Also small rounds in multiples. One machine will cut 200 to 300 pieces per hour of $\frac{1}{2}$ in. shaft or tubing; other sizes in proportion.

Ask for Catalogue

Cochrane-Bly Company

118-120 St. James St., Rochester, N. Y., U.S.A.

**Manufacturers of Metal Sawing Machines, Saw Sharpening
Machines and Filing Machines.**

A 12 INCH SAW

Screw Feed and Ball Bearing Thrust

Cuts 3x5 or
1-2x9 inch.

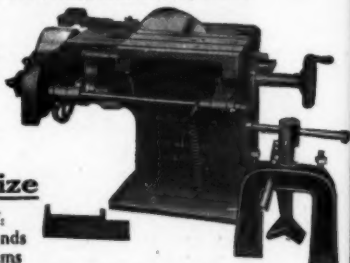
Power Friction
Feed.

Automatic
Knockout.

Large Clamp-
ing Table.

20 in. Size

CAPACITY:
5 $\frac{3}{8}$ Inch Rounds
12 Inch I Beams



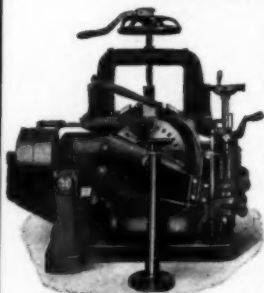
Reasonable in price

Write for particulars

Burke Machine Co., Conneaut, Ohio

THE LEA-SIMPLEX COLD METAL SAW

Well Worth Investigating



Because

Its capacity is greater than that of any arbor-driven machine of equal blade diameter;

It has the smallest number of working parts—all outside the frame;

It has a positive variable feed that is under absolute control—you can have the feed you want when you want it;

The saw runs without backlash, doing more work with less wear of the teeth;

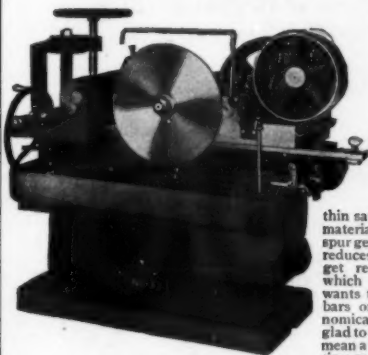
It has more points of superiority than we can even mention here.

Send for Bulletin No. 7, just issued

Lea Equipment Co., 90 West St., New York City

The Quick Way to Cut Steel

A Milling Saw with Correct Teeth
And the Machine to Drive It



What we have accomplished in reducing the time and cost of cutting steel with our No. 54 machine here shown, will be of interest to any manufacturer having this work to do. We

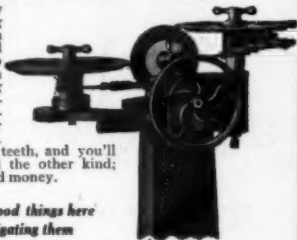
use a small, thin saw, which saves material, and a special spur gear drive, which reduces friction. We get results — results which any one who wants to cut off steel bars or rounds economically would be glad to duplicate; they mean a saving in both time and cost.

To Do Rapid Metal Sawing

The Teeth in your Saw Must be Right

Our Automatic Saw Sharpening and Beveling Machine, makes them right. It shapes them and sharpens them, and also bevels every other tooth on opposite sides, giving it the relief which prevents clogging and enables the saw to run faster and to do more work.

Try a saw with proper teeth, and you'll never feel able to afford the other kind; they waste too much good money.



*We have a couple of good things here
Don't put off investigating them*

Nutter & Barnes Company

326 A Street, Boston, Mass.

The Abrasive Metal Cutter

A Marvel of Rapidity and Economy

Tests show that it cuts:

Air hardened steel— $\frac{1}{2}$ in. square, in 10 seconds.

High speed or carbon steel—5-16 in. bars in 5 seconds.

Steel nickel or brass tubing— $\frac{1}{2}$ in. in dia., in 2 seconds.



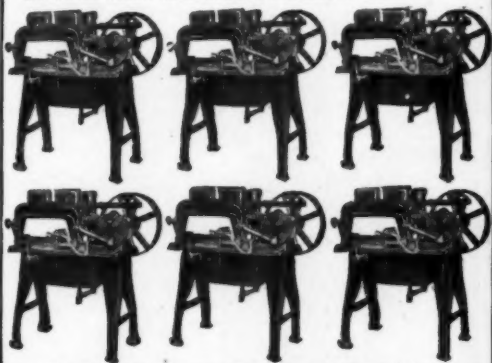
Wastes nothing, does not draw the temper, leaves the ends square, true and smooth. Cuts tubing filled with wire, rubber or webbing—things difficult to handle by other methods. A thin, specially prepared abrasive wheel, running at high speed, eats its way through the hardest material as if it were wood. Cuts bar stock up to 1 in., and tubing to $1\frac{1}{2}$ in.

We have some cost comparisons that you'll find interesting. Won't you ask for them?

Slack Manufacturing Company
Springfield, Vermont

**"Your High Speed Power Hack Saw Machine
is doing as much work as five ordinary hack
saws and doing better work."**

This is what one of our customers writes after giving it a trial. They also order another machine. They were operating ten of the ordinary hack saws; note the floor space saved, which may be worth more than cost of machines.



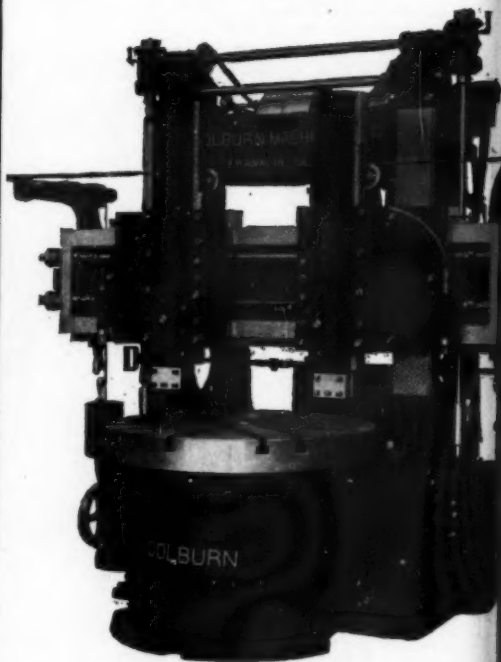
The number of repeat orders we are receiving for 1, 2, 3, 4, 5, 6 and 7 machines, where we have shipped one on trial, is the best possible proof that it saves money for the user. If you want to know what it will save you, let us send you one on 30 days' trial, and convince you by an actual test. If you are not satisfied that the machine is a money saver, that it is doing your work cheaper and better than it was ever done before, you can return it at our expense.

It is doing work never attempted with hack saws before, and saving money on it. Unequalled for cutting tool steel.

**If you want a machine that will save you money
let us hear from you**

Racine Gas Engine Co., Dept. 9, Racine, Wis.

Colburn



Colburn Machine M C

NEW MODEL Boring Mills

The easiest, fastest and simplest mills to operate—and the most economical.

The power rapid traverse, for instance, moves the heads in all directions *ten times* as fast as they can be "cranked" the old way—and without effort.

A mechanical belt shifter operated by a single lever gives any desired table speed instantly.

All levers are conveniently located for the operator. Safety devices prevent breakage of gears.

Worm and segment for swiveling the heads permit quick and exact adjustment.

The driving mechanism runs in a bath of oil, and all fast running bearings are ring oiled.

Mammoth saddles, swivels and rams insure the utmost strength and rigidity, and every other part is proportionately stiff and powerful.

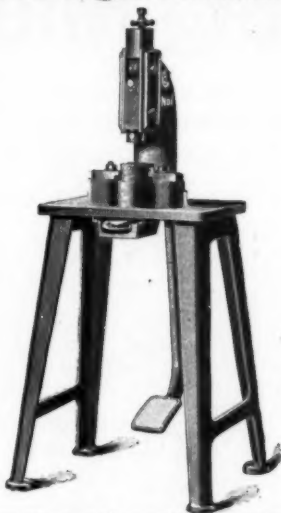
Colburn Mills, in a word, are tools of the highest efficiency.

Sizes 30 to 72 inch swing—write for details.

e T Co., Franklin, Pa.

No. 1 Tool Press

For Light Punching



For the manufacture of novelties from sheet metal, and for operating a variety of cutting, forming and perforating dies, requiring an accurate press of light power. The machine has exceptional strength and capacity for its size, handling readily punchings up to one inch in No. 16 brass. Carefully adjusted to secure accurate working of the dies and to prevent shearing. Pendulum action of lever gives a stroke of maximum power without fatiguing the operator. Material and workmanship the best. Twenty running in one factory.

Get the price; you'll like it

E. O. Partridge

2047-9 W. Lake St., CHICAGO

Bench Grinders, Floor Grinders and Tapping Machines

Still Grinding Drills By Hand?

EVERY point costs you more to grind than it should; and costs even more afterwards, because it subtracts something from the efficiency and earning power of the machine on which it is used. We can show you where and how

THE AMERICAN DRILL GRINDER Will Stop This Waste and Loss



And we can show you how and why it will produce a point that is scientifically correct, with angles and clearances that give the tool its greatest cutting efficiency; how and why it will grind drills of all sizes with the least trouble, in the shortest time and at the smallest cost; how and why its exclusive improvements place it far in advance of any other machine for this purpose, and

make it an indispensable necessity in every modern machine shop.

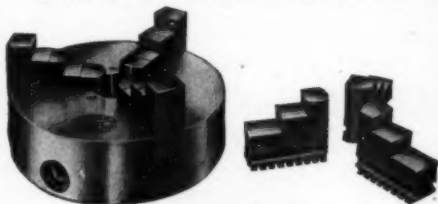
Our book on Drill Grinding is full of valuable information; a copy Free if you'll ask for it.

THE HEALD MACHINE COMPANY
25 New Bond St., Worcester, Mass.

Union Geared Scroll Chucks

With two sets of jaws

Adapted for all sorts of work under any conditions

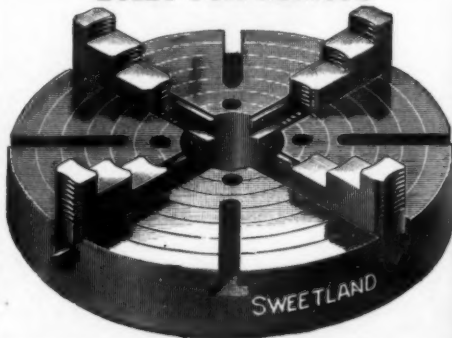


No. 153

We make other styles. Send for particulars

UNION MFG. CO., New Britain, Conn.
26 Cortlandt St., New York
Makers of a complete line of CHUCKS

INDEPENDENT CHUCKS BUILT FOR SERVICE



THE HOGGSON & PETTIS MFG. CO., New Haven, Conn.

Do You Operate Screw Machines or Turret Lathes?

If so, do you use the

Geometric Self-Opening and Adjust- able Screw Cutting Die Heads,

or are you going on in the same old way that your grandfather did, and still using the old fashioned solid dies and wasting half your time to no purpose backing the dies off the work after each thread is cut?

If you have not heard of the Geometric, it is your misfortune, but now that you have heard of it, it is still your misfortune if you fail to use it; and you will never know what you have lost or what you can save until you do use it.

Here it is



There is a Geometric Die for every kind, size and style of thread that you may wish to cut, and we are always glad to answer questions and to advise the proper size of tool to meet any requirement.

*Tell us your requirements and let us tell you
how to start the new year right*

The Geometric Tool Co.

New Haven, Conn.

Chicago Agents: Hill, Clarke & Co., 125 N. Canal St.
Pacific Coast Agents: The Compressed Air Mchry. Co., San Francisco.

Common Chuck troubles overcome by using
Chucks that have "our"

Hardened Steel Bushings

"Independent"



Four Jaw
Chucks

PATENTED AUGUST 3, 1909

THE CINCINNATI CHUCK CO., Cincinnati, Ohio

Chicago Branch:
559 W. Lake St.

New York Branch:
136 Liberty St.

The Oil You Save Pays the Bill

And Keeps on Paying
So the Extractor Really Costs You Nothing

A Curtis Oil Extractor

cannot be called an investment, because after a few weeks or months what it cost is balanced by the diminished expenditure for oil, and the investment is returned. It is just a money-making machine, which begins dropping dimes and dollars into your pocket as soon as you put the belt on and fill the basket with oil soaked chips. Every drop of oil it takes out means that much less to buy—that much smaller bill next month from your oil man. None but the rich can afford to do without it.



Pan
Holds
24
Quarts

How is it with you?

Curtis Oil Extractor Company
95 Foster St., Worcester, Mass.

ROGERS' "TALKS"



Standard Internal and External Cylindrical Gauges

Built strictly on the well and widely known "Rogers" lines, which we have taught the advocates of accuracy to associate with a goodness covering every detail of stock and workmanship. Steel, of course, hardened properly, and ground true enough to be stamped "Rogers," and (pardon our boldness) that means "good enough" for any duty. Made in sizes $\frac{1}{4}$ to 3 inches by sixteenths; also millimeter sizes to special order.

*Would you be interested in our
full list of Measuring Devices?*

The JOHN M. ROGERS WORKS
Gloucester City, N. J.

BOILING LYE

Cleans small machine parts better than gasoline, and it is cheaper and safer

Our Soda and Potash Kettles make its use Simple, Convenient and Effective

The solution is cheap, costing about $\frac{1}{2}$ cent a gallon, and as the parts come from the bath boiling hot, they dry quickly and clean, without danger of rusting. The washing is accomplished by simply immersing the parts in the solution, using the wash-basket shown, which is furnished with each kettle.

The saving in gasoline will pay for a kettle in a very short time. The solution is heated with a Bunsen burner, and as each kettle is complete in itself, it may be moved about as desired. It is cheaper than a steam heated kettle, and requires no pipes, valves, trap or other expensive and troublesome fittings.

**Two Sizes: 10 Gallons and
30 Gallons Capacity**

**Ready
for
Shipment**

**Cost less for installation and operation than any
other method of cleaning**

**THE GRAY & PRIOR MACHINE CO.
79 Suffield St., HARTFORD, CONN.**



Here It Is—

Tucker's Positive Lock Compression Grease Cup

For all kinds of machinery
having excessive vibration.
Sample sent by mail on re-
ceipt of cash, check or money
order.

Made in three sizes.

Price

No. 000	3/4 in.	1/2 in. pipe	\$0.50
No. 00	1 in.	3/4 in. "	0.60
No. 0	1 1/4 in.	1 in. "	0.70

PATENT PENDING

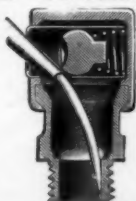
TUCKER'S OIL HOLE COVERS



No. 5 Style B



Self Closing



Style A

Style C, Self Closing



Send for Catalogue for full line.

**W. C. & F. C. Tucker, HARTFORD,
CONN.**

Keyseats Milled On the Drill Press



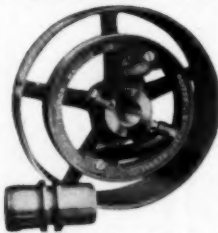
Are Exact Duplicates

You don't have to file or fit; the milling cutter makes them exactly alike. The operation is simple; any boy bright enough to drill holes can do it; attached to any drill press in a moment. Will cut short keyways in long hubs without measuring or monkeying. When you know how slick it works you'll want it.

Let us tell you more

National Machine Tool Co.
210 Lawrence St., Cincinnati, Ohio

Edgemont Friction Clutch Pulleys



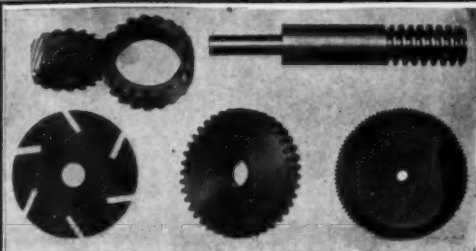
are made to stand the hard use and abuse caused by the use of high speed steel.

Look over your countershafts and you will find a clutch that does not deliver the power your machine is built for; then have us ship you a clutch that *will pull*.

Adopted by the leading Machine Tool Builders; let us tell you who they are.

**Friction Clutches for all purposes
Send For Catalogue**

The Edgemont Machine Co., Ft. of Mound Street,
DAYTON, O.



What Do They Cost

When You Make Them?

What Would They Cost

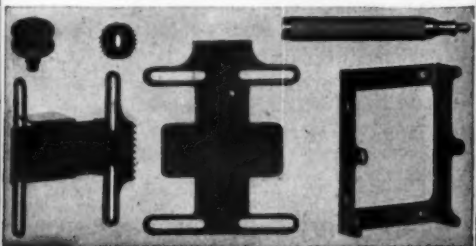
If We Made Them For You?

If we can do it cheaper than you can our plant will earn money for you as well as for us. Its equipment in the way of automatic screw machines, punch presses and light gear cutters is so complete, and our output so large, that we have been able to make some very interesting figures on this class of work. Samples or drawings of small parts, and an idea of quantities used, will bring quotations of cost promptly.

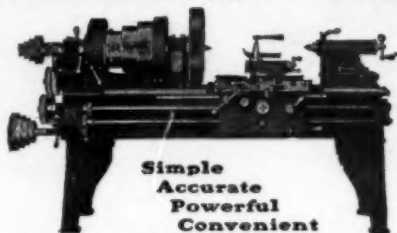
*A comparison with your own
cost would be valuable*

MOTOR CAR SPECIALTY CO.

TRENTON, - NEW JERSEY



Standard Engine Lathes



**Simple
Accurate
Powerful
Convenient**

Furnished with either standard 5-step cone or with 3-step cone, double-back-geared, **carrying a wide belt**, with 18 speeds and wide feed range.

GREAVES, KLUSMAN & CO
Cincinnati, Ohio, U. S. A.

WHEN YOU INQUIRE

of advertisers herein, won't you kindly remember to say somewhere in your communication that the inquiry comes from Hitchcock's Machine Tool List? Advertisers are human; they like to know that the medium in which they spend their money is received and consulted by machinery users. Not being mind readers, they can only know this when you tell them, and if you neglect to tell them, the Tool List is deprived of credit for the service it has rendered.

Why Spend Money Uselessly

building and operating a plant of your own, when we can manufacture your machine under conditions insuring a product perfect in every detail and a cost below what you could realize? Why not use the money, time and the nervous energy you would put into the organization and management of a factory, to sell more goods, to broaden and develop your market? If you avail yourself of our splendid factory organization and equipment, your manufacturing problem is solved; you will have time to study your field, and to plan and execute a magnificent campaign for business. The all important thing is selling, selling, selling; shift the burden of production to us, and you will sell more, make more.

We have the shops, the tools, the men, and the Yankee knack of doing things in the most economical way. They are making money for others—by saving it; they can do the same for you. Let us talk it over, and figure it over. Show us your blue prints, and give us a chance to estimate costs. What we are doing in the way of bringing the manufacture of machinery down to an economical basis may be a revelation to you, as it has been to others. No harm in getting our figures anyway.

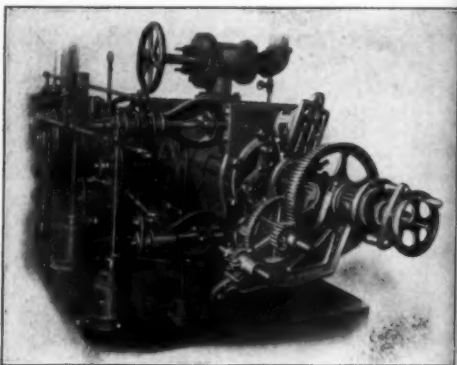
Will You Write?

**C. H. Cowdrey Machine Works
Fitchburg, Mass.**

Portable Tools

Are Highly Profitable Investments

They so greatly reduce the time a large engine or machine is out of service for needed repairs, that often the owners will cheerfully pay the cost of the necessary portable outfit as part of the bill. Few machines return so large a part of their cost every time they are used.



Portable Bar Boring Corliss Engine Cylinder.
(With only one head off.)

This is only one of our large variety of handy devices for repairing work in place. They include boring bars for all kinds of cylinders, as well as tools for milling, facing, valve seat and radius planing, turning crank pins and eccentrics, facing domes and cylinder flanges, planing driving boxes, boring automobile cylinders, bending pipe, etc., etc.

You should have a catalogue—write for one.

H. B. UNDERWOOD & CO.
1022 Buttonwood St., Philadelphia, Pa.

List
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Prices
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15x5 Dr
16x6 Am
16x16 sc

24x24x6
20x30x14
36x36x8

Boring a
Fosdic
Drill, 14
Drill, 5 f

O. L. Pa

14x6 Ree
15x6 New
17x8 Grea
20x8 Wri

24x24x7 P

5 ft. Cinc
36 in. Bar

No. 0 B
vertical

Chuckin
Cut-off m
Die millin
Gear cutte
automat
Grinders,

Second-Hand Machinery.

Lists of second-hand machinery, either for sale or wanted, will be published under this heading at the rate of **40 cents a line**, across the page, each issue, with a minimum charge of **\$4.00**. Sub-headings are counted as one line, but the name and address of advertiser are not included in the space charged for. Prices and full descriptions of the machines listed will be furnished by the parties offering them for sale. If you do not find what you require, use the slip inclosed with each book to make known your wants to the publisher.

FOR SALE BY

International Watch Co., New and Ludlow Sts., Jersey City, N. J.

WATCH FACTORY PLANT.

All our machinery and tools. Retiring from business.

A few as follows—list on application:

Complete plating and buffing plant.

Hartford automatic screw machines.

Hartford automatic Stehli screw machines.

Hartford automatic pin machines.

Waltham and Sloan & Chace wheel cutters, pinion cutters, staff lathes.

Drop hammers; power presses; lathes, all kinds.

All kinds of machinery for clock, watch and electric manufacture.

FOR SALE BY

The Cincinnati Planer Co.,

Cincinnati, Ohio.

LATHES.

15x5 Drees, turret.

16x6 American, taper attachment.

16x16 screw, automatic.

18x8 Schumacher & Boye.

32x10 Bradford, not screw cutting.

PLANERS.

24x24x6 L. W. Pond, 1 head.

30x20x14 Cincinnati, 2 heads.

36x26x8 Ohio, 1 head.

36x36x14 Chandler, 2 heads.

74x56x20 L. W. Pond, 2 heads.

MISCELLANEOUS.

Boring and drilling machine, No. 1

Fosdick, horizontal.

Drill, 14 in. American, sensitive.

Drill, 5 ft. Bickford, plain radial.

Drill, 5 ft. Fosdick, plain radial, par. drive.

Shaper, 15 in. Springfield, crank.

Shaper, 20 in. Steptoe, crank.

FOR SALE BY

O. L. Packard Machinery Co., Chicago, Ill., and Milwaukee, Wis.

LATHES.

14x6 Reed, compound rest.

15x6 New Haven, plain rest.

17x8 Greaves-Klusman, comp. rest.

20x8 Wright, plain rest.

22-36x22, plain rest.

72x22, comp. rest, with raising blocks to increase swing to 120 in.

PLANERS.

24x24x7 Pease.

36x36x16 Sellers.

DRILLS.

5 ft. Cincinnati full universal radial.

36 in. Barnes upright.

40 in. New Haven upright.

MILLERS.

No. 0 Brown & Sharpe universal,

vertical attachment.

No. 2 Becker-Brainard vertical.

No. 5 Garvin plain.

MISCELLANEOUS.

Chucking lathe, Pratt & Whitney.

Cut-off machine, 2 in. Huribut & R.

Die milling machine, Thurston.

Gear cutter, 36 in. combination, not automatic.

Grinders, various sizes.

Hammer, steam, 250 lb.

Keyseater, McKinnon.

Riveter, 4 in. Shuster.

Screw machine, 4 in. Cleveland automatic.

Shaft keyseater.

SECOND-HAND MACHINERY

FOR SALE BY

The E. L. Esley Mchy Co., 555-557 Washington Blvd., Chicago, Ill.

DRILLS.

- 2 spindle Henry & Wright, b. b., h. s.
- 2 spindle Burnham, sensitive, $\frac{1}{2}$ cap.
- 3 spindle Fox, sensitive, rebuilt.
- 4 spindle No. 4 Harrington, multiple, spindles adjustable on rail, $1\frac{1}{2}$ in. cap.
- 4 spindle No. 3 Garvin, multiple, fine order.
- 6 spindle No. 1 P. & W. multiple (2).

- 6 spindle No. 3 Garvin, multiple (2), fine order.
- 25 in. Barnes, st. head, b. g., p. f.
- 26 in. Hocfer sl. head, b. g., p. f.
- 28 in. Hamilton, sl. hd., b. g., p. f.
- 6 ft. Pond, plain radial, box swivel table, b. g., p. f., wt. 14,000 lbs., fine order, low price to move quickly.

ENGINE LATHES.

- 12x5 Star, c. r., 1 in. hole, fine order.
- 12x7 Star, c. r., $\frac{1}{2}$ in. hole, fine order.
- 14x6 Walcott, el. r., $\frac{1}{2}$ in. hole.
- 14x6 Reed, pl. r., 9-16 in. hole, taper.
- 14x6 Springfield, pl. rest, $\frac{1}{2}$ in. hole.
- 16x6 Flather, plain rest, $1\frac{1}{2}$ in. hole.
- 16x8 LeBlond, pl. rest, $1\frac{1}{2}$ in. hole.
- 18x12 Pratt & Whitney, comp. rest.
- 20x8 Wright, pl. r., 1 3-16 in. hole.
- 21x11 Lodge-D., c. r., 2 in. hole, taper.
- 24x16 Blaisdell, c. rest, $1\frac{1}{2}$ in. hole.

- 26x12 New Haven, compound rest.
- 27x18 Lodge & D., compound rest.
- 28x14 New Haven, compound rest.
- 30x14 New Haven, compound rest.
- 30x25 Blaisdell, comp. rest and chuck.
- 32x18 New Haven, compound rest.
- 36x25 New Haven, c. r., fine order.
- 37x16 Putnam, compound rest.
- 42x14 Putnam, c. r., taper attach.
- 42x16 Putnam, compound rest.

MISCELLANEOUS LATHES.

- 28 in. Gisholt, standard turret, comp.
- 13x5 American, brass, s. o. (2).
- 13x4 No. 23 Garvin Monitor.
- 18x6 J. A. Fay Co. brass spinning.

- 16x10 Auto. Mach. Co., auto. screw cutting, for cutting screws.
- 18x6 American, No. 2 Fox Monitor.
- 18x6 American, cabinet, turret.

BORING MILLS.

- 30 in. Colburn, turret head, 3-jaw chuck, rebuilt.
- 37 in. Streit pulley boring machine.
- 37 in. Baush & H., 2 heads, pl. table.

- 44 in. Rodgers & H., 2 hd., pl. table.
- 10 ft. Niles, 2 heads, plain table, modern, fine order, low price to move quickly.

SHAPERS.

- 15 in. Steptoe, single geared, crank.
- 16 in. Lutter & Gies, sgle. gd., crank.
- 16 in. G. & E., back geared, crank.

- 20 in. G. & E., back geared, crank.
- 20 in. Walcott, belted, geared.
- 28 in. Putnam, friction geared.

MISCELLANEOUS.

- Air compressor, 13x8x12 in. Curtis, belted, 128 cu. ft. cap., fine order.
- Blower, No. 3 Sturtevant, Steel & Co.
- Blower, No. $\frac{1}{2}$ Garden City, positive pressure.
- Bolt cutter, $1\frac{1}{2}$ in. Adams, single Landis head.
- Bolt cutter, $1\frac{1}{2}$ in. National, single.
- Bolt cutter, 2 in. Bement, single.
- Bolt pointer, 1 in. Adams.
- Brake, No. 2C Dreis & K., 7 ft., 14 ga.
- Exhaust fan, No. 4 Buffalo, & c. s.
- Gear cutter, 24 in. Brainard, s. & b.
- Grinder, No. 1 Diamond, double, wheel face.
- Grinder, 26 in. Diamond, spindle and roll, rebuilt.
- Grinder, 20x3 in. Diamond, single wheel, wet.
- Hammer, 40 lb., Hawthorn, helve.
- Hammer, steam, 650 lb., Morgan & W., double frame.
- Hammer, steam, 800 lb. Bement, single frame, fine order.

- Hobbing mche., 20 in. Grant, auto.
- Keyseater, 7 in., No. 0 Mitts & Merrill.
- Keyseater, 18 in. No. 4 Morton, rebuilt.
- Miller, Ames, Lincoln type, plain.
- Millers, No. 4 Garvin, plain (2).
- Planer, 16x16x3 Shepard, 1 head.
- Planer, 24x24x8 Ohio, 1 hd., rebuilt.
- Planer, 36x36x8 Betts, 1 head.
- Planer, 36x36x10 Powell, 1 hd., rebuilt.
- Profiler, Ames, 2 spindle, fine order.
- Punch press, No. 1 Fox, o. b., rebuilt.
- Punch press, No. 3 V. & O., o. b., inc.
- Punch press, No. 4, style E. R. & K., arch type, 24 in. stroke, fine order.
- Punch presses, No. 2 Am. Can (3).
- Punch and shear, 6 in. throat, Long & A., single end, 3x3 in., fine order.
- Rivet spinner, $\frac{1}{2}$ in. National.
- Saws, No. 4 Keystone, cold, 4 ft.
- Screw machine, 3 in. Pratt & Whitney, Hartford, automatic.
- Screw machine, No. 6 Pearson, 3 in. hole, with hub forming attach.
- Threading mche., roll, Rudolphi & K.

A partial list of used machinery for quick delivery. Write for our complete list of new and used machinery, and state your wants; we may have it.

Hill, Cl

- 14x6 Rec
- 14x6 Bla
- 14x6 Fla
- 14x6 Fla
- 14x6 Fla
- 16x6 Bla
- 16x6 Bla
- 16x6 Fite
- 16x6 Rec
- 16x7 Bla
- 16x8 I. I
- 16x8 Fla
- 17x6 Bla
- 17x6 Bla
- 17x6 LeH
- 17x6 Bla
- 17x7 Bla
- 17x8 Bla
- 17x8 Fite
- 18x6 Schu
- motor
- 18x7 Ne
- 18x7 Ne
- 18x8 Bra
- 18x8 New
- 18x8 Bla
- 18x8 LeB
- 18x8 Schu
- 18x10 Ra
- 18x10 Sch
- 21x8 Bla
- 22x10 Dra
- 22x10 Fla
- 22x10 LeH
- 22x12 Gre
- 26x12 Dra
- 28x11 Dra
- 28x12 Ne
- 32x13 Put
- 32x14 Pon
- 32x14 Fif
- 38x14 Nev

DRILL

- 16 in. bar,
- 26 in. Harv
- 35 in. Bla
- 4 spindle s
- 5 ft. Prent
- No. 6 Hau
- 32 in. Nile
- 42 in. Bull
- 60 in. Nile

- No. 2 Dia
- Emery sta
- Springfie
- No. 4 Lan

- 3 h. p. Gen
- 124 kilow

SECOND-HAND MACHINERY.

FOR SALE BY

Hall, Clarke & Co. of Chicago,

Chicago, Ill.

ENGINE LATHES.

14x6 Reed, taper attachment.....	\$ 290
14x6 Blaisdell.....	190
14x6 Flather.....	225
14x6 Flather.....	225
14x6 Flather, taper attachment.....	275
16x6 Blaisdell.....	290
16x6 Blaisdell.....	275
16x6 Fitchburg.....	175
16x6 Reed.....	275
16x7 Blaisdell.....	310
16x8 I. H. Johnson.....	375
16x8 Flather.....	325
17x6 Blaisdell.....	330
17x6 Blaisdell.....	275
17x6 LeBlond.....	290
17x6 Blaisdell.....	250
17x7 Blaisdell.....	340
17x8 Blaisdell.....	340
17x8 Fitchburg.....	200
18x6 Schumacher & Boye, with motor drive.....	375
18x7 New Haven.....	375
18x7 New Haven.....	375
18x8 Bradford.....	350
18x8 New Haven.....	380
18x8 Blaisdell.....	400
18x8 LeBlond.....	425
18x8 Schumacher & Boye.....	400
18x10 Rahn.....	400
18x10 Schumacher & Boye.....	475
21x8 Blaisdell.....	450
22x10 Draper.....	550
22x10 Flather.....	475
22x10 LeBlond.....	500
22x12 Greaves & Klusman.....	600
28x12 Draper.....	650
28x11 Draper.....	900
28x12 New Haven.....	650
32x13 Putnam.....	750
32x14 Pond.....	900
32x14 Fifield.....	875
38x14 New Haven.....	1,300

DRILLS AND BORING MACHINES.

18 in. bar, bench drill press.....	\$ 30
36 in. Barnes drill press.....	135
35 in. Blaisdell drill press.....	200
4 spindle sensitive drill press.....	125
5 ft. Prentice plain radial drill.....	850
No. 6 Bausch radial drill.....	1,200
32 in. Niles upright drill press.....	175
42 in. Bullard boring mill.....	1,200
60 in. Niles vert. pulley boring.....	500

GRINDERS.

No. 2 Diamond, wet.....	\$ 40
Emery stand.....	25
Springfield, automatic surface.....	200
No. 4 Landis, universal.....	675

MOTORS.

2 h. p. General Electric Co.....	\$ 80
1 1/2 kilowatt Milwaukee dynamo.....	100

SHAPERS AND PLANERS.

15 in. Hendey pillar shaper.....	\$ 225
16 in. Walcott & Wood crank shaper.....	235
30x30x8 Smith & Silk planer.....	800
48x48x12 Powell planer.....	1,750

TURRET AND SCREW MACHINES.

13x4 1/2 P. & W. pl. hd., chas.....	\$100
16 in. Davis & Egan, turret lathe.....	300
16 in. Davis & Egan turret lathe.....	300
16 in. Jones & L. chucking lathe.....	200
21 in. Gisholt turret, motor dr.....	1,000
2 in. Cleveland auto. screw.....	250
2 in. Cleveland auto. screw.....	300
2 1/2x26 in. Foster ring turret.....	600
No. 1 9-16 in. P. & W. screw mch.....	140
No. 2 Pratt & W. screw mche.....	200
No. 2 Pratt & W. screw mche.....	240
No. 2 Pratt & W. screw mche.....	200
No. 2 1/2 Garvin, double turret screw machine.....	300

MILLING MACHINES AND GEAR CUTTERS.

Kempsmith plain miller.....	\$ 400
No. 1 Whiton auto. gear cutter.....	450
No. 2 Whiton auto. gear cutter.....	400
30 in. G. & E. auto. gear cutter.....	400
36 in. Becker-B. gear cutter.....	600
48 in. Brainard gear cutter.....	750
No. 1 Pfauter gear hobber for spur and worm gears.....	900
No. 1 Pfauter gear hobber for spur, worm and spiral gears.....	1,150

PUNCH PRESSES.

Haight & Walsh, inclined.....	\$ 125
No. 0 Stiles press.....	60
No. 1 Cady.....	125
No. 2 Stiles.....	110
No. 2 Consolidated.....	120
No. 4A. Mossberg & G., arch.....	175
No. 2P Rudolphi & Krummel armature disc punching.....	180
No. 2P Rudolphi & Krummel armature disc punching.....	175
No. 33 Ferracute, straight sided.....	160
No. 45 Holden, inclined.....	225
No. 66 Crosby, arch.....	225
No. 70 Crosby, open back.....	300

MISCELLANEOUS.

Keyseater, No. 2 Baker Bros.....	\$ 350
Keyseater, No. 2 Morton.....	150
Oil separator, Springfield.....	35
Pipe cutter, roller, B. & K., pwr.....	40
Slotter, 18 in. Sellers.....	1,200

SECOND-HAND MACHINERY

FOR SALE BY

The H. A. Stocker Machinery Co., 566-572 W. Randolph St., Chicago.

ENGINE LATHES.

13½x5 P. & W., comp. rest and chuck.
14x8 Porter, compound rest.
14x6 LeBlond, plain rest and chuck.
14x6 Hamilton, comp. rest and chuck.
15x6 Goddard, with taper attach.
16x6 Robbins, with taper attach.
16x8 Davis, compound rest.
16x6 Reed, with taper and chuck.
16x6 LeBlond, c. r., chuck and turret.
17x6 Bradford, compound rest.
17x8 Fitchburg, c. rest and chuck.
18x8 Hendey, q. c. g., c. rest, taper.
18x6 Schumacher & B., c. r. and ck.
18x8 Schumacher & B., c. r. and ck.

18x8 G. & K., c. r., chuck and turret.
20x8 Harrington, blocks to 25 in.
20x8 Union Machine Co., with chuck.
21x8 Bradford, blocks to 25½ in.
21x8 Fifield, comp. rest and turret.
24x14 Fitchburg, c. rest and chuck.
24x10 Flather, c. r. and blocks to 32 in.
24x13 New Haven, c. rest and chuck.
24x12 Gleason, compound rest.
26x12 Putnam, comp. rest and chuck.
32x12 S. & B., comp. rest and chuck.
38x16 Flather, comp. rest, t. b. g.
50x20 New Haven, c. rest, t. b. g.
84x20 Putnam, comp. rest, t. b. g.

MILLING MACHINES.

No. 14 Kempsmith, plain back geared, all automatic feeds.
No. 1A Kearney & Trecker, plain back geared, all automatic feeds.
No. 24 Brown & Sharpe, plain back geared, all automatic feeds.
No. 4 Cincinnati, high power, plain, geared feeds, good as new.

No. 1 Brown & Sharpe, plain.
No. 2 Putnam, universal.
No. 6 Whitney, hand.
No. 3½ Fox, hand and power.
No. 2 Garvin, Lincoln pattern.
No. 7 Becker, Lincoln pattern.
No. 2 Thurston, die.

PLANERS.

20x20x6 Ames.
20x20x4 New Haven.
21x21x5 Hendey.
24x24x5 Powell.
26x26x6 Pond.
27x27x7 New Haven.
30x30x10 Flather, 3 heads.

32x32x8 New Haven.
32x32x14 Flather.
36x36x12 Sellers.
38x38x16 Putnam.
42x42x12 Pond, 2 heads.
48x42x12 Pond, 1 head.
10x10x24 Detrick & H., open side.

SHAPERS, SLOTTERS AND KEYSEATERS.

16 in. Ohio shaper.
20 in. Cincinnati shaper.
34 in. Walcott shaper.
12 in. Niles slotter.

60 in. Norton portable slotter.
No. 0 Baker keyseater.
No. 00 Baker keyseater.

BORING MILLS.

30 in. Bullard, with side head.
30 in. Bullard, turret head.
42 in. Bullard, single turret head and combination chuck in table.
42 in. Niles car wheel borer.
42 in. Bullard, 2 heads, fine order.

52 in. Rogers, 2 heads, motor drive.
7-10 ft. Betts, 2 heads.
10-16 ft. Niles, 2 heads and other att.
72 in. Bullard, 2 heads, good working order.

SCREW MACHINES AND TURRET LATHES.

8 in. Cleveland, automatic, turret.
2 in. Cleveland automatic turret.
3½ in. Cleveland, automatic turret.
20 in. Fay & Scott, universal.

No. 3 Foster, with automatic chuck.
Hartford automatic, 1½ in. capacity.
No. 2 Brown & Sharpe, 1 in. cap.
No. 0 Brown & Sharpe, wire feed.

POWER PRESSES.

No. 4 American Can Co., o. b., inc.
No. 95½ Bliss, geared, double crank.

No. 3 Bliss, toggle drawing press, good as new.

DRILLS.

7 ft. arm Prentice, radial, gear box dr.
6 ft. arm Bickford, radial, gear box dr.
5 ft. arm Fosdick, radial, gear box dr.
4 ft. arm Fosdick, radial, gear box dr.

3 ft. arm Bickford, radial.
40 in. Aurora, upright.
38 in. New Haven, upright.
20 smaller drills.

The H.

Whiting
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K-M-5
trolley,
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3 Niles 2
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crane 4
motor
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650 r. p.
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Niles 30
city au
crane, 7
motor
tor; au
30 h. p.
W. E.
auxiliar

Morgan
lbs., cap
72 ft. 6
equipm
auxiliar
h. p., 37
W. E.
auxiliar

Northern
lbs.; no
motor
motor;
p., 725
hoist, 7

Shaw Ele
capacity
about 4
hoist, 52
15 h. p.
m., W
type N
hoist, 70

Air comp
type 11.
Air comp
belt driv
Bolt cutte
Bolt head
Eye bend
Gas furna
Gear cutte
Gear cutt
50 in. G
Grinder, w
Grinder, p
Hammer,

SECOND-HAND MACHINERY

FOR SALE BY

The H. A. Stocker Mehry. Co., 566-572 W. Randolph St., Chicago.

TRAVELING CRANES.

Whiting Foundry & Equipment electric traveling crane; capacity of main hoist 40,000 lbs., equipped with cable; span, 46 ft. 1 in.; lift about 25 ft., using 60 lb. T. rail; motor equipment: 30 h. p., 450 r. p. m., W. E. Co. type K-M-5 motor; bridge, 15 h. p., 475 r. p. m., W. E. Co. type K-N-3 motor; trolley, 3 h. p., 775 r. p. m., W. E. Co. N-1-3 motor; travel in ft. per minute, main hoist, 20 ft., bridge, 350 ft., trolley, 90 ft.

3 Niles 20 ton electric traveling cranes; capacity of main hoist 40,000 lbs., capacity of auxiliary hoist 10,000 lbs.; hoist equipped with steel cable; span of crane 46 ft. 1 in., lift about 28 ft.; wheel load 36,000 lbs., 60 lb. T rail used; motor equipment: main hoist 30 h. p., 650 r. p. m., W. E. Co. type H-6; auxiliary hoist, 15 h. p., 750 r. p. m., W. E. Co. type H-4 motor; bridge, 30 h. p., 650 r. p. m., W. E. Co. type H-6 motor; all motors 230 volts; travel in ft. per minute, main hoist 20 to 40 ft., auxiliary hoist, 30 to 60 ft., bridge 400 to 500 ft., trolley, 100 to 125 ft.

Niles 30 ton electric traveling crane; capacity main hoist, 60,000 lbs.; capacity auxiliary hoist, 10,000 lbs.; hoist equipped with steel cable; span of crane, 72 ft. 6 in., lift about 45 ft.; wheel load, 55,000 lbs., 80 lb. T rail used; motor equipment: main hoist, 30 h. p., 650 r. p. m., W. E. Co. type H-6 motor; auxiliary hoist, 15 h. p., 830 r. p. m., W. E. Co. type H-4 motor; bridge, 30 h. p., 635 r. p. m., W. E. Co. type H-6 motor; trolley, 7½ h. p., 900 r. p. m., W. E. Co. type H-2 motor; travel in feet per minute, main hoist, 15 to 30 ft., auxiliary hoist, 30 to 60 ft., bridge 400 to 500 ft., trolley, 100 to 125 ft.

Morgan Engineering Co. electric traveling crane; capacity main hoist 60,000 lbs., capacity auxiliary hoist, 10,000 lbs.; hoist equipped with cable; span, 72 ft. 6 in., lift about 45 ft., wheel load 62,000 lbs., 80 lb. rail used; motor equipment: main hoist, 50 h. p., 500 r. p. m., W. E. Co. type DB-6-a motor; auxiliary hoist, 30 h. p., 375 r. p. m., W. E. Co. type E-5-a motor; bridge, 30 h. p., 375 r. p. m., W. E. Co. type E-5-a motor; trolley, 5 h. p., 300 r. p. m., W. E. Co. type N-2 motor; travel in ft. per minute, main hoist, 35 to 15 ft., auxiliary hoist, 70 to 28 ft., bridge, 400 to 350 ft., trolley 125 to 100 ft.

Northern Engineering Co. electric traveling crane; capacity main hoist, 20,000 lbs.; no auxiliary hoist; hoist equipped with cable; span 40 ft., lift 14 ft.; motor equipment: main hoist, 7½ h. p., 500-100 r. p. m., W. E. Co. type H-2 motor; bridge, 5 h. p., 675 r. p. m., W. E. Co. type H-2 motor; trolley, 2½ h. p., 725 r. p. m., W. E. Co. type H-1 motor; travel in ft. per minute, main hoist, 7½ ft., bridge, 200 ft., trolley, 100 ft.; floor operated.

Shaw Electric Co. electric traveling crane; capacity main hoist, 60,000 lbs., capacity auxiliary hoist, 10,000 lbs.; equipped with cable; span 72 ft. 6 in., lift about 45 ft., wheel load, 56,000 lbs.; 80 lb. rail used; motor equipment: main hoist, 52 h. p., 500 r. p. m., W. E. Co. type ER-6-a motor; auxiliary hoist, 15 h. p., 400 r. p. m., W. E. Co. type B-4-a motor; bridge, 50 h. p., 500 r. p. m., W. E. Co. type DR-6 motor; trolley, 6 h. p., 475 r. p. m., W. E. Co. type N motor; travel in ft. per minute, main hoist, 35 to 15 ft.; auxiliary hoist, 70 to 28 ft., bridge, 400 to 350 ft., trolley 125 to 100 ft.

MISCELLANEOUS.

Air compressor, 6x9 in. Rand, drill type 11.

Air compressor, 13-8x12 in. Curtis, belt driven.

Bolt cutter, 2½ in., Adams, auto.

Bolt heading machine, ¼ in. Burdict.

Eye bender, ¼ in. Williams.

Gas furnace, Stewart.

Gear cutter, spur only, 42 in. G. & E.

Gear cutter, spur, bevel and skew, 50 in. Gould & Eberhardt.

Grinder, wet tool, Sellers.

Grinder, plain, 18x¾ Norton.

Hammer, 60 lb. Bradley.

Hammer, 100 lb. Beaudry.

Hammer, steam post, 100 lb. Amer.

Nut tapper, 2 in. Acme, 6 spindle.

Pipe machine, 4 in. H & K.

Pipe machine, 4 in. Saunders.

Pipe machine, 6 in. Saunders.

Pulley lathe, 60 in. Lodge & Shipley.

Punch and shear, single end, 36 in. throat, capacity 1½x1½.

Punch and shear, single end, No. 19

Bement, 42 in. throat, cap. 4x1½

Shear, circle, No. 08 Niagara hand and power.

Wheel press, hydraulic, 40 ton.

SECOND-HAND MACHINERY

FOR SALE BY

Independent Mfg. Co.,

270 Fourth St., Milwaukee, Wis.

Blower, 7½ in.

Lathe, 11 in. speed, 5½ ft. bed, with slide rest.

Lathe, 15 in. Lodge & Davis, Fox turret, compound slide rest, 6 ft. bed.

Lathe, 16 in. Lodge & Davis, Fox turret, 6½ ft. bed,

Vises, anvils, belting, etc.

All in excellent condition. Write for description and price.

FOR SALE BY

Niles-Bement-Pond Company,

111 Broadway, New York.

Located at Chicago, Boston and New York.

LATHES.

12x5 LeBlond, rise and fall rest.

16x6 Flatther, rise and fall rest.

16x6 Flatther, compound rest.

16x6 Prentice, compound rest.

16x6 Fitchburg, compound rest and taper.

16x8 Reed, taper.

18x10 Draper, geared head.

22x16 Fitchburg, shafting.

30x12 Johnson, compound rest and taper, triple geared.

2x24 in. turret lathe, Jones & L.

24 in. turret lathe, Conradson.

28 in. turret lathe, Gisholt.

MILLING MACHINES.

Bench, Pratt & Whitney No. 60.

Index, Brainard.

Hand, Pratt & Whitney No. 2 New Model.

Plain, No. 2 Garvin.

Plain, No. 3 Garvin.

Plain, No. 3 Carter & Hakes.

Plain, No. 4½ Becker.

Plain, No. 4 Brown & Sharpe, old style.

Universal, No. 4 B. & S., old style.

Profiler, No. 2 Garvin.

RAILROAD MACHINERY.

Lathe, axle, Bement, single.

Lathe, axle, Bement, double.

Lathe, axle, No. 2 Niles, double, belt or motor.

Lathe, axle, No. 3 Putnam, extra heavy.

Borer, car wheel, 36 in. Baker.

PLANERS AND SHAPERS.

15 in. Hendey.

16 in. Gould & Eberhardt.

18 in. Cincinnati, double, traveling heads.

17x17x4 Whitcomb.

26x26x6 Pond.

30x30x24 Sellers, 2 heads.

42x42x10 Pond Machine Tool, 1 heads.

48x48x9 Hewes & Phillips, 1 head.

72x72x24 Bement, 3 heads.

72x72x24 Sellers, 3 heads.

BORING MILLS.

36 in. Brown & Sharpe, turret.

96 in. swing, special horizontal boring mill.

37 in. vertical Bullard, 2 heads.

21 ft. vertical Pond, 3 heads, motor.

TURRET MACHINERY.

½ in. No. 60 Garvin, wire feed.

½ in. No. 60 Hartford, Pratt & Whitney, automatic.

½ in. pin machine, Cleveland, automatic.

½ in. pin machine, No. 6 Hartford, automatic.

½ in. No. 1 Pratt & Whitney, wire fd.

½ in. No. 1 Spencer, single turret.

½ in. No. 1 Pratt & Whitney, automatic, 2 spindle.

½ in. No. 2 Pratt & Whitney, wire feed.

21-32 in. No. 2 Brown & Sharpe, old style, automatic.

½ in. No. 2 Pratt & Whitney, automatic.

2 in. No. 3 Pratt & Whitney, wire feed, geared head.

No. 6 Pratt & Whitney, automatic, 2 spindle.

MISCELLANEOUS.

Drill, ½ in. capacity, 10 spindle, adjustable.

Drill, 15-16 in. capacity, 10 spindle, adjustable.

Drill, radial, 3 ft. Box

Drills, single spindle.

Drills, multiple spindle.

Grinder, tool, Gisholt, belt driven.

Grinder, face and variety, Springfield style B.

Slotter, 30 in. draw stroke, Baker.

Send for list No. 16.

J. J.

Niles

bos

Bement

Seller

7 ft.

6 ft.

50 in.

32 in.

Upr.

144 in

132 in

124 in

96 in.

Imm

Small

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16x8 g

18x10

20x8 L

21x16

22x10

22x10

24x12 S

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28x13

36x18

No. 4

arm,

No. 16

94 in. w

Seller

65x65x1

64x54x1

48x38x1

42x42x1

42x36x1

27 in. G

27 in., 4

riage

27 in. A

Bending

Bending

Bolt cut

Broachi

Cold saw

Gear cut

Grinder,

Grinder,

Shaper,

Shaper,

Slotter,

Pipe mac

Punch an

Punch, 2

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ing out ti

SECOND-HAND MACHINERY

FOR SALE BY

J. J. McCabe,

30 Church St., New York City.

BORING AND DRILLING MACHINES.

Niles horizontal floor boring and drilling machine, with 3 in. spindle, out-board support, extra fixtures, 5 in. bar.
Bement hor. boring and drilling machine, knee type, 3 $\frac{1}{2}$ in. bar, wt. 12,700 lbs.
Sellers horizontal boring and drilling machine, 2 $\frac{1}{2}$ in. bar.
7 ft. upright boring and turning mill, Niles, double head.
6 ft. Wm. Sellers & Co. upright boring and turning mill, double head.
50 in. Bullard Mch. Tool Co. upright boring and turning mill, double head.
22 in. Rogers. upright boring and turning mill, swivel turret head.
Upr. drills, all sizes, 20 to 50 in. swing, Prentice, Snyder, Barnes, Harrington.

RADIAL DRILLS.

144 in. Western, heavy, good as new.
122 in. Wm. Sellers & Co., heavy.
124 in. Pond type, heavy.
96 in. Bement, universal, heavy.
110 in. Niles, universal, swivel head and arm, heavy.
86 in. Sellers, heavy.
72 in. Bickford, heavy.

LATHES.

Immense big stock of lathes. Some of the choice ones are:
Small lathes, 10 in. up, Reed, Putnam, Flatler.
16x8 geared head, quick change.
18x10 Blaisdell, standard.
20x8 Draper, geared head.
21x16 American, c. rest, taper attach.
22x10 Hamilton, heavy pattern.
22x10 Pond, standard.
24x12 Schumacher & Boye, standard.
26x12 Bogert, risers to 40 in.
26x13 Bement, taper attachment.
26x18 Putnam, standard.
28x14 Harrington, triple geared.
30x12 Pond, back geared.
32x14 New Haven, dbl. back geared.
40x16 Putnam, back geared.
42x24 Putnam, triple geared.
54x21 Fitchburg, triple geared.
54x36 Bement, triple geared.
64x24 Fifield, triple geared.
69 in. blocked from 54 in., 24 ft. bed, Fitchburg.
78 in. driving wheel lathe, Niles Tool Works, double head.

MILLING MACHINES.

No. 4 Brown & S., 60x14 in. table over arm, bk. gd., with cir. milling att.
No. 16 Garvin, plain, large size.
Garvin, plain, table 26x6 over arm.
No. 2 Cincinnati, plain, vert. attach.
Ingersoll slab, table 22x60 in.

PLANERS.

84 in. widened from 48 in. x 14 ft., Sellers, 3 heads.
65x65x10 Bement, 1 head.
54x54x16 Sellers, 4 heads.
48x38x18 Gray, 3 heads.
42x42x18 Niles, 2 heads.
42x36x12 Flatler, 3 heads.
34x34x14 Gleason, 1 head.
30x30x6 Gray, 1 head.
30x30x8 Whitcomb, 1 head.
26x26x7 New Haven, 1 head.
26x26x6 Pond, 2 heads.
24x24x6 Putnam, 1 head.

TURRET LATHES AND SCREW MACHINES.

27 in. Gisholt, carriage and turret.
27 in., 48 in. gap, Gisholt, with carriage and turret.
27 in. American, Gisholt type, turret.
22 in. American, Gisholt type, gap turret.
Screw machine, 2 $\frac{1}{2}$ in. wire feed, Pratt & Whitney, auto. feed to turret.

MISCELLANEOUS.

Bending rolls, Hilles & Jones. 6 and 10 ft. between housings.
Bending rolls, 49 ft. hand, for sheet iron.
Bolt cutter, 1 $\frac{1}{2}$ in. National, complete with taps and dies.
Broaching machine, 2x24 in., complete equipment.
Cold saws, 3 and 5 in. Lucas, complete.
Gear cutter, 30 in. Gould & Eberhardt, full automatic, for spur gears.
Grinder, 16x24 in., No. 2 Providence, universal.
Grinder, universal cutter and reamer, automatic, all attachments.
Shaper, 14 in. Fitchburg, 28 in. cross feed, traveling head.
Shaper, 20 in. stroke, Putnam, friction.
Slotter, 15 in. Betts, all automatic feeds, good as new.
Pipe machine, 4 in. Philadelphia, heavy, complete with dies.
Punch and shear, 9 in. Hilles & Jones, capacity 1 in. through $\frac{3}{4}$ in.
Punch, 24 in., capacity 1 in. through 1 in., heavy.

If the time to buy is when prices are low, now is the time, while we are selling out this entire machine shop equipment in Pennsylvania.

Write for complete list No. 134.

SECOND-HAND MACHINERY

FOR SALE BY

Western Machinery Co., - 6th & Baymiller Sts., Cincinnati, O.

LATHES.

13x5 speed.
16x5 Warner & Swasey, Fox.
18x8 Steptoe-McF., plain rest, p. c. f.
20x13 Niles, plain rest.
20x36x8 Harrington, gap.

21x11 Lodge & D., h. spdl., c. r., taper.
22x12 Niles, plain rest, pwr. cross fd.
23x6 Niles, compound rest, p. c. f.
24x16 Blaisdell, comp. rest, p. c. f.
27x14 ft. 8 in., comp. r. and taper.

MISCELLANEOUS.

Bulldozer, No. 1 Williams-White.
Chain blocks, 3 ton (2).
Drills, bench, 10 in., c. s. & chucks (4).
Drill, post, hand.
Drill, sensitive, bench.
Hack saws, power (2).
Hammer, 25 lb. Bradley.
Lathe chucks (17).

Miller, Whitney, hand.
Planer, 24x24x5.
Planer, 30x10, open side, 1 head.
Punch and shears, English pattern.
Shaper, 6 in. Pratt & W., crank.
Shaper, 14 in. Steptoe, crank.
Vises, swivel shaper, new at second-hand price (12).

FOR SALE BY

The Chicago House Wrecking Co., W. 35th and Iron Sts., Chicago.

ENGINE LATHES.

10x5 screw cutting.
14x8 screw cutting.
16x6 screw cutting.
16x9 screw cutting.

18x10 screw cutting.
21x6 screw cutting.
36x26 New Haven.

PLANERS AND SHAPERS.

58x58x10 Hewes & Phillips planer, with one head on cross rail and one head on side.

24x24x6 Planer.
24 in. Weatherhill shapers (3).

DRILL PRESSES.

20 in. vertical, Barnes.
20 in. Silver, new (2).
36 in. Prentiss, back geared, with sliding heads (3).

26 in. vertical, C. L. Rice.
4 1/2 ft. plain radial, Gang & Co.
4 1/2 ft. plain radial, Universal Co. (2).

MISCELLANEOUS.

Air compressor, 7x9 Clayton, belt dr.
Band saw, 36 in. American.
Blowers, No. 1 Root, belt driven (2).
Blower, No. 1 Root, belt driven.
Blower, No. 2 Root, direct connected to horizontal engine.
Blower, No. 3 Root, direct connected to vertical engine.
Bolt cutter, No. 3 National.
Boring machine, horizontal, single head, wood frame.
Cold saw, Bryant, circle, power.
Cranes, locomotive, 5 ton Brown (2).
Crusher, jaw, 9x14 Gates.
Dado head machine, wood frame.
Exhaust fans, 40 in. Sturtevant (3).
Exhaust fan, 48 in. Sturtevant.
Locomotives, 9x14 Baldwin, 36 in. gauge (4).

Planer, wood, 24 in., J. M. & G. B. Farrar.
Pump, centrifugal, No. 8 Morris, direct connected to vertical engine.
Pump, centrifugal, No. 15 Morris, direct connected to double cylinder vertical engine.
Pump, steam, 18x13x18 Cameron.
Punch and shear, Doty Mfg. Co. power driven.
Rattlers, iron foundry, 30 in. x 4 ft. Rest (2).
Resaw, band, McDonough, 44 in.
Sander, 30 in. Berlin, single drum.
Saw table, 3x6, wood frame.
Sticker, 8 in., McNish & Butler.
Straightening mch., bulldozer, geared, 1/2 in. stroke, 10 in. adjustment.

We have large machine shops, and every engine, boiler and machine is thoroughly overhauled and tested before leaving our plant. In addition we have structural iron, pipe, shafting, pulleys, corrugated roofing, steel and metal ceiling and siding, lumber, mill work, complete plumbing outfits for factories and public buildings, office and parlor furniture. Send for new 340 page catalog No. 889. Free on request.

46 telephones, all Yards 1900.

C. C.

19 in.
15 in.
15 in.
15 in.

14 ft.
16 ft.
16x16x
22x22x
24x24x
24x24x
24x24x
26x26x

Knech
3 spind
4 spind
6 spind
2 ft. N
4 ft. pla
4 1/2 ft. B

LeBlon
Pratt &
Bath, u

48 in. B
48 in. B

No. 3 F
No. 3
No. 5 H
No. 50

11x4 Ma
12x7 Sho
13x6 Pr
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14x6 Per
15x6 Nu
16x6 Bla
16x6 Per
16x6 Por
16x6 Pre
16x10 Le
18x8 Lod
18x8 Nev
18x8 Star
19x6 Pon

Bolt cutt
Bolt cutt
Brake, 8
Cold saw
Cutting-o
Gear cutt
Hammer,
Hammer,
Keyseater
Keyseater
Pipe mac
Pipe mach

SECOND-HAND MACHINERY

FOR SALE BY

C. C. Wormer Mach'y Co., 94-96 W. Woodbridge St., Detroit, Mich.

SHAPERS.

- | | |
|--------------------------------------|------------------------------|
| 19 in. traverse head. | 16 in. Chase. |
| 15 in. Hendey, friction geared rack. | 26 in. Gould & Eberhardt. |
| 15 in. Kelly. | 20 in. Hendey. |
| 15 in. Niles-Bement-Pond, pl. crank. | 22 in. Walcott, geared rack. |
| 15 in. Walcott. | 24 in. traverse head rack. |

PLANERS.

- | | |
|-----------------------------|--------------------------|
| 14 ft. Sellers, plate. | 26x26x6 Pond. |
| 16 ft. Niles, boiler plate. | 30x30x8 Powell, 2 heads. |
| 16x16x36 Bigelow. | 30x30x9 Gleason. |
| 22x22x5 Pond, side drive. | 30x30x14 Miles, 2 heads. |
| 24x24x5 New Haven. | 32x32x10 Pond, 2 heads. |
| 34x24x7 New Haven. | 38x38x10 New Haven. |
| 24x24x8 Powell. | 48x48x12 Pond, 3 heads. |
| 26x26x5 Gray. | |

DRILLS.

- | | |
|-------------------------------------|-----------------------------------|
| Knecht, sensitive. | 52 in. McNall universal radial. |
| 3 spindle Woodward & R., sensitive. | 17 in. swing, Baker, style F. |
| 4 spindle Woodward & R., sensitive. | 24 in. square base, sliding head. |
| 6 spindle Woodward & R., sensitive. | 40 in. No. 5 New Haven. |
| 2 ft. National radial. | 20 in. McKerchie, back geared. |
| 4 ft. plain radial. | 24 in. Bickford, back geared. |
| 4½ ft. Box & Co. radial. | 32 in. Blaisdell, back geared. |

GRINDERS.

- | | |
|-------------------------------------|---------------------------------|
| LeBlond, univer. cutter and reamer. | Gisholt, water tool. |
| Pratt & Whitney, cutter. | 36 in. Diamond, roll. |
| Bath, universal, 20 in. centers. | No. 160 Auto. Mche. Co., plain. |

BORING

- | | |
|--------------------------------------|------------------------------|
| 48 in. Bickford, single head. | 48 in. Harrington, vertical. |
| 48 in. Bement & Dougherty, vertical. | 9 ft. Sellers. |

MILLING MACHINES.

- | | |
|------------------------------------|-------------------------------|
| No. 3 Fox. | Valve miller, Am. T. & M. Co. |
| No. 3½ Fox. | No. 1 Garvin, hand. |
| No. 5 Brainard. | No. 2 Pratt & Whitney, hand. |
| No. 58 Bement & Dougherty, bk. gd. | 10 in. Burke, hand. |

ENGINE LATHES.

- | | |
|-------------------------------------|----------------------------------|
| 11x4 Mann, rise and fall rest. | 19x10 Greaves & Klusman. |
| 12x7 Shepard. | 20x8 Sherman. |
| 13x6 Pratt & Whitney. | 20x10 Perkins. |
| 14x6 Flather. | 22x8 Fifield. |
| 14x6 Perkins. | 22x10 Niles. |
| 15x6 Nutter-Barnes. | 22x16 Putnam. |
| 16x6 Blaisdell. | 24x10 Bridgeport. |
| 16x6 Perkins. | 24x12 LeBlond, compound rest. |
| 16x6 Porter. | 24x12 Sherman. |
| 16x6 Prentice Bros. | 26x17 Speedwell. |
| 16x10 LeBlond, compound rest. | 28x12 New Haven. |
| 18x8 Lodge & Davis. | 28x14 New Haven. |
| 18x8 New Haven, rise and fall rest. | 30x14 Fifield. |
| 18x8 Star. | 48 in. pulley lathe, double end. |
| 19x6 Pond. | 60 in. Stevens pulley lathe. |

MISCELLANEOUS.

- | | |
|---------------------------------------|--|
| Bolt cutter, ½ in. National, single. | Press, No. 52 Toledo, st. side, o. b. |
| Bolt cutter, 1½ in. Reliance, double. | Press, No. 84-A st. side, dbl. crank. |
| Brake, 8 ft. Ohl. cornice, 20 gauge. | Punch press, No. 1 Cook, o. b., inc. |
| Cold saw, No. 11 Higley. | Punch press, No. 10 Niagara, o. b., inc. |
| Cutting-off machine, 4 in. H. & R. | Punch and s., ½ in. st., hand power. |
| Gear cutter, 30 in. Gould & E. | Screw machine, No. 6 Brown & S. |
| Hammer, 80 lb., Long & A. | Screw machine, No. 1 Pratt & W. |
| Hammer, 150 lb., Marchand & M. | Screw machine, No. 2 Garvin. |
| Keyseater, No. 1 Baker Bros. | Screw machine, No. 2 Pratt & W. |
| Keyseater, 12 in. Morton. | Shear, bevel, for boiler plates. |
| Pipe machine, ½ to 2 in. Jarecki. | Tapping machine, 10 in. Baker. |
| Pipe machine, 1 to 6 in. Merrell. | Tire welder and shear, No. 4 L. & A. |

SECOND-HAND MACHINERY

FOR SALE BY

Wickes Brothers,

West & Cedar Sts., New York City.

RADIAL DRILLS.

4 ft. universal (2).

2½ ft. Hamilton.

3½ ft. Baush.

5 ft. box, semi-radial.

CAR WHEEL LATHE.

42 in. Pond, for steel tired car wheels, up to 42 in. diameter, takes 7 ft. 6 in. between centers, turns 2 wheels simultaneously, fine order.

HAMMERS.

125 lb. Bradley, helve.

600 lb. Merrill, board drop.

800 lb. steam.

1,000 lb. Merrill, board drop.

1,200 lb. Dudgeon, steam.

FOR SALE BY

McCabe Machine Co.,

P. A. McCabe, Pres.,

95 Liberty St., New York, N. Y.

BORING MILLS.

30 in. turret head, Niles, near new.

6 ft. double head, Niles, good.

3 in. bar, horizontal, Betts, near new.

LATHES.

26 in. x 12 ft., taper.

2x24 in. turret, Jones & Lamson, near new.

2 in. turret, Potter & Johnston, with 18 spindle speeds, near new.

MISCELLANEOUS.

Gear cutter, 24 in. full automatic, Brainard, near new.

Planer, 54 in. x 12 ft., 3 heads.

Slotter, 12 in. stroke.

FOR SALE BY

Don M. Osborne,

719 St. Clair Ave., N. E., Cleveland, Ohio

LATHES.

16 in. x 6 ft. Blaisdell, compound rest, taper attachment.

16 in. x 6 ft. Prentice, plain rest, taper attachment.

18 in. x 6 ft. Prentice, plain rest.

18 in. x 8 ft. Lodge & Davis, compound rest, taper attachment.

24 in. x 23 ft., plain rest, good order.

25 in. x 10 ft. LeBlond, 3 step cone, double back gears, heavy carriage with compound rest, power feed turret on shears, weight 9,000 lbs., good as new.

26 in. x 10 ft., compound rest, crane, raising blocks to swing 38 in., cheap, \$200.

48 in. x 20 ft., compound rest, crane, complete, in good order.

60 in. x 20 ft., compound rest, old style, raising blocks for 72 in. swing, cheap.

120 in. x 18 ft., gap, triple geared, compound rest, adjustable, good order, cheap.

MISCELLANEOUS.

Boiler rolls, 8 ft. between housings, 12 in. diameter, old style, in good order, will sell cheap.

Boring mill, 8 ft., old style, good order, \$400.

Hammer, 1,200 lbs., steam, 12x24 in. Sellers, single frame, good condition.

Hammer, 2,000 lbs. capacity, steam, Bement, double frame, overhauled and in first-class operating condition, at a bargain price.

Hammer, 5,000 lbs. Toledo, special friction board drop.

Planer, 80x36 in. x 12½ ft., single head, a big bargain.

Planer, 98x98 in. x 20 ft. Betts, single head, extra head can be applied.

Punch and shear, double end, 24 in. throat, capacity 1½ in. thru 1 in., back geared, weight about 15,000 lbs., cheap.

Radial drill, 3 ft. Dresses, plain, with tapping attachment.

Shears, Toledo rotary slitting with circling attachment, capacity 15 to 61 in.

Slotter, 10 in. universal table, back geared. 30 in. column to tool, 24 in. feed, 18 in. between table and cutter, weight 8,000 lbs., \$400.

Toggle press or brake, 12 ft. Robinson, independent and power adjustment.

Prentiss

12x5 Dav

14x5 Fay

14x6 Lod

18x6 Flat

cross fe

18x8 Fish

18x8 Lod

power

20x10 Pu

cross fe

21x10 Ne

cross fe

22x12 Ni

cross fe

24x8 Lod

rest, po

24x22 Fifi

cross fe

No. 1½ G

No. 1½ P

No. 2 Ke

No. 3 Gar

16 in. styl

22 in. Pre

back ge

25 in. Pre

power f

38 in. Nev

9 in. Pratt

15 in. Her

12 in. Gou

16 in. Gou

No. 68 Bl

16x16x4 H

20x20x4 N

24x24x5 G

24x24x6 W

30x30x6 P

50 lb. Bra

Boring mi

Cold saw,

Engine, g

Grinder, p

Grinder, u

Keyseater

Pipe mach

SECOND-HAND MACHINERY

FOR SALE BY

Prentiss Tool & Supply Co., New York, Boston, Buffalo, Syracuse.

LATHES.

12x5 Davis, quick change.
14x5 Fay & Scott, rise and fall rest.
14x6 Lodge & Davis, compound rest.
18x6 Flather, compound rest, power cross feed, taper.
18x8 Fish, plain rest, power cross feed.
18x8 Lodge & Davis, compound rest, power cross feed.
20x10 Putnam, compound rest, power cross feed.
21x10 New Haven, plain rest, power cross feed.
22x12 Niles, compound rest, power cross feed.
24x8 Lodge & Shipley, compound rest, power cross feed.
24x22 Fifield, compound rest, power cross feed.

25x13 Bement, compound rest, p. c. f.
30x10 Lodge & Davis, power cross feed.
31x10 Gould & Eberhardt, compound rest, power cross feed.
36x16 Niles, compound rest, power cross feed.
36x17 Bement, triple geared.
37x18 Sellers, compound rest, power cross feed.
48x20 Fitchburg, triple geared.
59x16 Harrington, triple geared.
62x20 New Haven, triple geared.
84x20 compound rest, power cross feed.
103x35 Bement, triple geared.
108 in. pit lathe, compound rest, power cross feed.

MILLERS.

No. 1½ Garvin, universal.
No. 1½ Pratt & Whitney, hand.
No. 2 Kempsmith, plain.
No. 3 Garvin, universal.

No. 5 Becker-Brainard, vertical.
No. 12 Brown & Sharpe, plain.
No. 22 Kempsmith, univer., all feeds.
22x22½ Ingersoll, slab.

DRILLS.

16 in. style F, Baker Bros.
22 in. Prentice Bros., sliding head, back geared.
25 in. Prentice Bros., back geared, power feed.
38 in. New Haven, sliding head.

32 in. Lodge & Davis, back geared, power feed.
60 in. Bickford, stationary head.
4 ft. Bickford, plain radial.
5 ft. Bickford, universal radial.
5½ ft. Niles, universal radial.

SHAPERS.

9 in. Pratt & Whitney, crank.
15 in. Hendey-Norton, friction.

18 in. Juengst, horizontal, crank.
26 in. Lodge & Davis, shifting belt.

GEAR CUTTERS.

12 in. Gould & Eberhardt, hand.
16 in. Gould & Eberhardt, auto.

18 in. Brown & Sharpe, automatic.
26 in. Brown & Sharpe, automatic.

PRESSES.

No. 68 Bliss, double acting.

PLANERS.

16x16x4 Hendey, 1 head.
20x20x4 New Haven, 1 head.
24x24x5 Gould & Eberhardt.
24x24x6 Woodward & Powell, 1 hd.
30x30x6 Pond, 1 head.

32x32x8 Pease, 1 head.
36x36x8 Niles, 2 heads.
48x48x10 Niles, 2 heads.
48x48x12 Woodward & Powell, 4 hds.
81x54x16 Betts, 1 head.

HAMMERS.

50 lb. Bradley, compact.

700 lb. Pratt & Whitney, drop.

MISCELLANEOUS.

Boring mill, 38 in. Bridgeport.
Cold saw, 24 in. Newton.
Engine, gas, 8 h. p., Fairbanks.
Grinder, plain, No. 21 Landis.
Grinder, universal, No. 2 Oesterlein.
Keyseater, No. 2 Davis.
Pipe machine, 2 in. Bignall & Keeler.

Pipe machine, 3 in. Jarecki.
Profiler, 1 spindle, Garvin.
Screw machine, 1½ in. Spencer, auto-automatic, double end.
Slotter, 13 in. Bement.
Tumbling barrel, No. 2 Baird, oblique.

SECOND-HAND MACHINERY

FOR SALE BY

W. L. Perkins Jr., & Co., 136 Liberty St., - New York City, N. Y.

LATHES.

12x5 Pond, rise and fall rest.	25x10 Fitchburg, comp. rest, p. c. f.
13x5 Prentiss, rise and fall rest.	26x12 Blaisdell, comp. rest, pwr. c. f.
17x10 Rahn-Carpenter, c. r., p. c. f.	28x16 compound rest, power cross fd.
20x10 Harrington, comp. rest, p. c. f.	34x8 Johnson, comp. rest, pwr. c. f.
22x12 Harrington, comp. rest, p. c. f.	48x12 Harrington, comp. rest, p. c. f.

MISCELLANEOUS.

Drill, 23 in. w. & l.	Planer, 30x30x6 Gray.
Lathe, 18x6 brass turret, American.	Punch, 11 in. Young, geared.
Miller, universal, No. 3 Cincinnati.	Punch and shear, 38 in. Bisby & E.

FOR SALE BY

The Randle Machinery Co., . 1739 Powers St., Cincinnati, O.

BOILERS.

Horizontal tubular, from 6 to 150 h. p., for all pressures.	Fire box, from 8 to 80 h. p.
	Vertical, from 3 to 50 h. p.

ENGINES.

Corliss, from 50 to 350 h. p.	Throttling, from 5 to 150 h. p.
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Automatic, from 25 to 180 h. p.

LATHES.

36 and 28 in., double end.	60 in. Stevens, pulley.
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MILLER.

Duplex brass miller.

PLANER.

32x29x10 New Haven.

PIPE THREADER.

2 1/2 to 12 in. Eaton, Cole & Burnham, motor drive.

TOOL GRINDER.

Springfield tool grinder.

BOLT CUTTER.

1/2 to 1 1/2 in. Sellers.

AIR COMPRESSOR.

8x6x9 Locomotive type.

MISCELLANEOUS.

Heaters, pumps, tanks, blowers, exhausters, saw mill and general machinery.

Write for list. Also a full assortment of new machinery.

Sole manufacturers of the celebrated "Leader" Injectors and Ejectors. Send for circulars.

FOR SALE BY

A. D. White Machinery Co., . 108-114 N. Jefferson St., Chicago.

LATHES.

13x5 Prentiss, comp. rest, taper.	16x6 Flather, compound rest, chuck.
15x6 Schellenbach, oil pan.	16x8 LeBlond, c. r., hollow spindle.
16x6 Bradford, comp. rest, taper.	20x8 Pratt & W., chuck and taper.

SCREW MACHINES.

No. 00 B. & S., auto, turret formers (2)	1 in. Cleveland automatic.
1 in. Costillo, hand.	1 in. Cleveland, semi-automatic.
1 in. Windsor, hand.	2 in. Cleveland automatic.

PUNCH PRESSES.

No. 1 R. & K. o. b. inc. press.	No. 3 R. & K. st. sided, dbl. crank.
No. 2 R. & K. o. b. inc. press.	No. 25 Niagara arch press.

DRILL PRESSES AND BORING MILLS.

28 in. Barnes, power feed, back gd.	3 spindle Baker drill.
12 in. Knecht friction drill.	10 ft. Niles mill, 2 heads; bought new 5 years ago; used very little.
6 spindle Hendey drills (2).	
33 in. Cincinnati p. f. drill.	

MISCELLANEOUS.

Gas engine, 20 h. p., Columbus.	Miller, No. 4 Kempsmith, universal.
Hammec, 60 lb. Bradley.	Pipe machine, 6 in. Curtis.
Keysater, No. 0 Mitts & Merrill.	Shaper, 16 in. Barker.
Miller, No. 3 Kempsmith, plain.	Square shear, 40 in., power.

If you have something you cannot use, write us.

11-13-15

908

1 1/2 in. Econ

42 in. Bull

42 in. Gish

drive, in

14-20 ft. N

Cylinder b

8 in. Baker

28 in. Cinc

36 in. Ham

36 in. Econ

6 ft. Weste

tachment

800 lbs., M

1100 lb., fri

1500 lb., Be

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gear mec

14 in. x 5 ft

14 in. x 6 ft

24 in. x 14 ft

pendent t

26 in. x 12 ft

26 in. x 14 ft

26 in. x 24 ft

56 in. x 22 1/2

Brown & S

2 in. Saund

4 in. Saund

22x22 in. x 4

24x24 in. x 7

28x28 in. x 6

30x30 in. x 6

30x30 in. x 1

48x48 in. x 1

72x42 in. x 1

146x45 in. x 1

1/2 in. Pratt &

29 in. Milwa

30 in. x 12 ft

turret, 36

42 in. New l

No. 4 Pratt

tum-stile

Potter & Jo

10 in. Putna

20 in. Niles,

4 in. Baker

7 in. Baker

SECOND-HAND MACHINERY

FOR SALE BY

Marshall & Huschart Machinery Company,

11-13-15 N. Canal St., Chicago. 45-47 S. Capitol Ave., Indianapolis.

908 N. Second St., St. Louis. 611 Pabst Bldg., Milwaukee.

BOLT CUTTERS.

1½ in. Economic, single head, complete set of dies, tap chuck, countershaft.

BORING MILLS.

42 in. Bullard boring and turning mill, one turret head.

42 in. Gisholt boring and turning mill, two heads on cross rail, for motor drive, including motor, rheostat, starting box, and full electrical equipment.

14-20 ft. Niles extension boring and turning mill, 2 heads.

Cylinder boring machine, with 2 cylinder boring bars, 2 facing heads.

DRILLS.

8 in. Baker Bros., upright, style F., spindle feed (3).

28 in. Cincinnati, upright, sliding head, back gears, power feed.

36 in. Hamilton, upright, sliding head, back gears, geared feed.

36 in. Economic plain radial, cone drive, plain table, tapping attachment.

6 ft. Western, full universal radial, single pulley gear box drive, tapping attachment, plain table.

HAMMERS.

800 lbs., Monighan, steam.

1100 lb., friction board drop.

1500 lb., Bement, steam, single frame, with anvil, dies, regular attachments.

LATHES.

14 in. x 5 ft. Lodge & Shipley, rise and fall rest, hollow spindle, quick change gear mechanism.

14 in. x 5 ft. Hendey, compound rest, hollow spindle, quick change gear.

14 in. x 6 ft. Le Blond, compound rest, hollow spindle.

24 in. x 14 ft. American, hollow spindle, compound rest, 20 in. 4 jaw independent chuck fitted.

26 in. x 12 ft. Reed, solid spindle, compound rest.

26 in. x 14 ft., 2½ in. hollow spindle, power cross feed.

26 in. x 24 ft. Pond shafting lathe, compound rest, solid spindle.

36 in. x 22½ ft. triple geared, compound rest, power cross feed.

MILLING MACHINE.

Brown & Sharpe, No. 24, plain friction feed.

PIPE MACHINES.

2 in. Saunders, with dies and countershaft.

4 in. Saunders, with dies and countershaft.

PLANERS.

22x22 in. x 4 ft. Wheeler, one head on cross rail.

24x24 in. x 7 ft. Gray, one head on cross rail.

28x28 in. x 6 ft. Rockford, one head on cross rail.

30x30 in. x 6 ft., one head on cross rail.

30x30 in. x 13 ft., one head on cross rail.

48x48 in. x 14 ft. Detrick & Harvey, open side, two head on cross rail.

72x42 in. x 26 ft., one head on cross rail.

146x45 in. x 17 ft., four heads.

SCREW AND TURRET MACHINES.

½ in. Pratt & Whitney automatic screw machine.

29 in. Milwaukee turret lathe.

30 in. x 12 ft. Gisholt turret lathe, taper attachment, power rapid traverse to turret, 30 in. chuck.

42 in. New Haven turret lathe.

No. 4 Pratt & Whitney turret lathe, friction geared head, double cut off, turn-stile feed to turret.

Potter & Johnston automatic chucking lathe.

SLOTTERS.

10 in. Putnam, with circular table.

20 in. Niles, circular table.

TAPPING MACHINES.

4 in. Baker Bros., 10½ in. spindle feed (2).

7 in. Baker Bros., 14½ in. spindle feed (2).

SECOND-HAND MACHINERY

FOR SALE BY

Baird Machinery Co., 23rd and Smallman Sts., Pittsburg, Pa.

BOILER SHOP EQUIPMENT.

Air compressors, compound, Ingersoll-Sargent style D; Westinghouse style D.
Bending rolls, 10 ft. and 5 ft.
Drills, 5 ft. Prentice radial; 4 ft. Fosdick radial; 4 ft. Dreses radial; Ingersoll air drill, 16D.
Expanders, from 4 in. to 6 in. diameter.
Hammers, 400 lb. Morgan; 600 lb. Pgh.; No. 99 Imperial Ingersoll-Rand pneumatic.
Hoists, 6 in. to 8 in. bore.
Punches and shears, double, with bevel shear attachment, 24 in. gap; double, Royerson, 12 in. gap; hand screw punches from No. 0 to 4; hand shear.
Riveters, hydro. pneumatic, Pedrick & Ayer, one 8 ft. gap, one 6 ft. gap.
Shears, Cleveland bevel; Young hand shear.

FOR SALE BY

J. W. Wright & Co., 2nd and Morgan Sts., St. Louis, Mo.

LATHES.

15x6 Von Wyck, compound rest,	20x8 American, compound rest.
18x8 Rahn-Mayer, compound rest.	20x12 Gray, compound rest.
18x8 Hamilton, taper.	20x12 Bradford, compound rest.
18x8 Le Blond, compound rest.	28x12 Fifield, compound rest.
19x10 Gray, compound rest.	28x13 old style.
19x12 Gray, compound rest.	28x16 New Haven, compound rest.

PLANERS AND SHAPERS.

15x15x36 in. New Haven.	24 in. Steptoe, triple geared.
18 in. American, plain crank.	

SCREW MACHINES.

No. 0 Brown & Sharpe, wire feed, A-1.

MISCELLANEOUS.

Bolt cutter, double, 1½ in. National.	Milling machine, vise, B. & S, large.
Centering machine, 4 in.	Motor, 5 h. p. Wagner, a. c.
Cock grinder.	Press, horn, No. 12 Toledo.
Compressor, 22x26½x24 in., Ingersoll, straight line.	Press, double crank, 20B. Toledo.
Drill, 34 in., sliding hd., b. g., p. f.	Press, No. 53 Swaine.
Hammer, power, Perfect.	Presses, small (2).
	Punch and shear, combination, Ohl.

FOR SALE BY

The Osborne & Sexton Machinery Co., Columbus, Ohio.

LATHES.

16x6 Blaisdell, plain rest.	32x10 Gage, power cross feed.
18x7 Wood-Light, rise and fall rest.	32x12 plain rest, taper attachment.
20x12 compound rest, pwr. cross fd.	48x18 Fifield, triple geared.
28x10 Pond, compound rest, p. c. f.	54 in., gap, turret on ways.
24x12 Steptoe-McFarland, taper.	14x6 wood lathe, iron shears.

SHAPERS AND PLANERS.

16 in. Walcott, with vise.	30x30x12 Bement-Daugherty.
24 in. Steptoe, with vise.	24x24x6, 1 head.

DRILL PRESSES.

14 in. Barnes, w. and l.	20 in. Champion, back geared, p. fd.
20 in. Davis, back geared, pwr. feed.	54 in. Sellers, comp. table, b. g., p. f.

MISCELLANEOUS.

Cock grinder, double.	Hammers, 450, 750, 1,500 and 3,000 lbs., Toledo friction board drop.
Gas engines, 12, 20, 35, 60 and 120 h. p.	Lathe, turret, 2x24 in. Jones & L.
Hack saws, Nos. 1, 2 and 3	Tapping machine, Webster & Perka.
Hammer, steam, 1,100 lb., Morgan.	

We have other second-hand machines. Mail us your requirements.

SECOND-HAND MACHINERY

FOR SALE BY

Joseph T. Ryerson & Son, - 16th and Rockwell Sts., Chicago

LATHES.

Item.		Item.	
65	15x6 square arbor, brass.	145	15½x6 Flather.
86	16x8 Lodge & Shipley, q. c. gear	186	15x8 American, q. c. gear.

All except item 65 with hollow spindle, power cross feed, compound rest, complete with countershaft and usual equipment.

PLANERS.

136	Sellers, 48x48x8 ft. 6 in., 2 hds.	166	Bement, 36x36x7, 2 heads.
151	Pond, 26x26x6, heavy pattern.	167	Sellers, 42x42x6 ft. 6 in., 2 hds.
156	Pond, 26x26x6, heavy pattern.	168	Sellers, 42x42x6 ft. 6 in., 2 hds.
157	Pond, 26x26x6, heavy pattern.	169	Sellers, 42x42x8 ft. 6 in., 2 hds.
158	Pond, 26x26x6, heavy pattern.	170	Sellers, 48x48x8 ft. 6 in., 2 hds.
159	Pond, 26x26x6, heavy pattern.	171	Sellers, 50x48x8 ft. 6 in., 2 hds.
160	Pond, 26x26x6, heavy pattern.	120	10 ft. plate planer, belt drive.
161	Pond, 26x26x6, heavy pattern.	215	Gray, 36x36x10.
163	Sellers, 36x36x7.	216	Dieterick & Harvey, 60x60x18 open side.
164	Sellers, 36x36x7.		

MILLING MACHINES.

180	No. 2 Cincinnati, universal, bk. gd., positive feed, latest type.	200	No. 9 Garvin.
		204	No. 12 Brown & Sharpe, plain.

SHAPERS.

181	18 in. Rockford, back geared.	183	15 in. Springfield.
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PUNCHES AND SHEARS.

74	Hilles & Jones No. 2 flat jaw, capacity 1 in. ½ in.; 36 in. throat, with 8 ft. crane and trolley, belt drive.		
77	Hilles & Jones No. 4, flat jaw, cap. 1½ in 1 in., 36 in. throat, belt drive.		
221	Cleveland style C punch, 24 in. throat.		
219	Long & Allstatter, size A, capacity 2 in. hole.		
220	No. 103, ¼ circle cutting shear.		
59	Pels & Co., Johns T-30 beam shear, cap. 12 in. 334b. beams, belt drive.		

MOTORS.

1-A	25 h. p. West. 220 volts, d. c., 850 r. p. m.	40	6 h. p. West. crane motor, 220 volts, d. c.
2-A	15 h. p. West. 220 volts, d. c., 550 r. p. m.	104	6 h. p. Western Electric, 220 volts, d. c., 1,100 r. p. m.

MISCELLANEOUS.

180	Band saw, Wright, for metal sawing.
173	Bending rolls, 3 ft. 8 in. between housings.
211	Boring mill, 62 in. Bullard, 2 heads.
214	Boring mill, horizontal, 2 in. x 6 ft.
213	Boring mill, horizontal, 4x27x60 Beaman & Smith.
218	Bulldozer, No. 1, Williams, White & Company.
177	Bulldozer, Ajax No. 5.
178	Cut-off saw, No. 4B., Q & C.
193	Drill press, Foote-Burt.
194	Drill press, Barr.
196	Drill press, Barnes.
197	Drill press, Woodward & Rogers.
198	Drill press, Sigourney.
33	Drill, Cleveland suspension, capacity 3 in. hole.
187	Drill, 25 in. Hamilton upright, back geared.
134	Hammer, steam, Niles-Bement, weight 1,100 lbs.
63	Pipe threader, Bignall & Keeler, P. D. Q. C. No. 2, ½ to 2 in. pipe.
191	Pipe threading machine, Forbes, 2½ to 8 in.
192	Pipe threading and cutting machine, Borden, 2 in.
208	Profiling machine, Pratt & Whitney.
175	Riveter, pneumatic, Allen jaw type, reach 25 in., gap 15 in., cylinder 12 in., capacity 1½ in. rivets.
209	Tapping machine, automatic, No. 2 Garvin.
210	Screw machine, hand, No. 2 Pratt & Whitney.
138	Slotter, 14 in. Sellers, all feeds.

SECOND-HAND MACHINERY

FOR SALE BY

Frevert Machinery Co., . . . **18 Day St., New York City.**

Hammer, drop, 500 lb. Niagara. board lift, weight 8,600 lbs.
Pinion and gear cutter, No. 1 Slate, automatic.
Profiler, 1 spindle.
Press, No. 3 Waterbury-Farrell straight side, 6 in. stroke, fly-wheel, 42½x5½ in., weight 629 lbs.
Press, screw, No. 3 Perkins.
Press, punch, hand, capacity 9-16 in. in 9-16 in.

FOR SALE BY

Wm. C. Johnson & Sons Machinery Co.,

210-212 Washington Ave.

St. Louis, Mo.

LATHES.

16x6 Flather, compound rest.	25x26 New Haven, compound rest.
18x6 Gray, plain rest.	26x16 Powell, compound rest.
18x8 Lodge & Barker.	Axle lathe, single head, cheap.
20x14 Flather, compound rest.	

PLANERS.

26x26x6 New Haven.	48x48x14 D. & H., open side.
30x30x8 Whitcomb.	56x56x16 Sellers, 3 heads.

AIR COMPRESSORS.

6x6 Ingersoll, belted.	18x12x12 Ingersoll, belted.
8x8 Curtis, belted.	20x20 & 13½x24 Norwalk.
8x8x8 Laidlaw-Dunn.	22x24 Rand, duplex, belted.
9½x9½x10 Westinghouse.	

MISCELLANEOUS.

Bolt cutter, 2 in. National.	Hammer, Justice, belt, 90 lb.
Drill, 28 in. Bickford, sliding head.	Lathes, pulley, several.
Drill, Quint, 6 spindle.	Miller, heavy, plain, b. g., 17 in. feed.
Drill, plain radial, 5 ft. arm.	Planer, rotary, cast iron columns.
Furnace, gas heating, Chicago.	Punch, No. 15 Williams-White.
Grinder, architectural iron.	Straightening roll, 5 ft. Hilles & J.

FOR SALE BY

Russell Machine Co. . . . **28th St. & A. V. R. R., Pittsburg, Pa.**

LATHES

14x6 screw cutting, Seneca Falls Machine Co., q. c. g., hol. spdle., modern.
16x8 screw cutting, Pratt & Whitney, hollow spindle, modern up-to-date tool.
18x6 Bradford Mill Co., hollow spindle, rod and screw feed, compound rest.
20x8 LeBlond, hollow spindle, rod and screw feed, compound rest.
21x10 Pratt & Whitney, hollow spindle, screw feed, comp. rest, taper attach.
22x10 Putnam, solid spindle, rod and screw feed, compound rest.
24x10 Putnam, solid spindle, rod and screw feed, compound rest.
24x12 Putnam, solid spindle, rod and screw feed, compound rest.
42x16 Pond, heavy duty, triple geared, modern tool with roll turning housings.
Cut-off lathes, Kinsey, cap. from 3 to 6½ in., used principally for cutting off pipe and boiler tubes (12).

MISCELLANEOUS.

Bending rolls, 34 in. Hilles & Jones, drop housings, practically new.	Miller, No. 1 Brown & S., univ., dividing hd. and tail stock, belt feed.
Bolt cutter, 1½ in. Lodge & Davis, with full set of dies.	Miller, No. 3 Brown & S., univ., dividing hd. and tail stock, b. & s. fd.
Boring mill, vertical, 34 in. Bement, single head, little old style, but in good condition.	Pipe mche, 2 in. B. & K., full set dies.
	Planer, 30x30x7 Pond, single head.
	Shaper, 20 in. Gould & E., geared.

The above tools are all in good operative condition, on any of which we are in position to name attractive price.

SECOND-HAND MACHINERY

FOR SALE BY

Frank Toomey, Inc., 127 N. Third St., Philadelphia, Pa.

LATHES.

38x18, blocked to 48 in., Harrington, 84x40 Putnam.
triple geared. Boring lathe, 36x18 centers, massive.

PLANERS.

36x12 Detrick & Harvey, open side, 84x84x24 Putnam, 1 head.
3 heads. 84x84x27 Lowell, 2 heads.

MISCELLANEOUS.

Boring mill, 10 in. Betts, good as new. Hammer, 1,000 lb. Chambersburg,
Boring mill, 72 in. Newark, horizontal, steam drop.
4 13-16 in. spindle. Shaper, 20x30 Pedrick & Ayer, open
Miller, No. 2 Becker-Brainard, plain. side.

FOR SALE BY

**The Motch & Merryweather Machinery Company,
707-715 Lakeside Av., N. W., Cleveland, Ohio**

Branches: Detroit, Cincinnati, Pittsburgh.

UPRIGHT DRILL PRESSES.

Dallet, portable (2). 32 in. Cincinnati, sliding head, back
21 in. Cincinnati, stationary head. gears, geared tapping attachment.
24 in. Cincinnati, sliding head, back 33 in. Bement-Miles, stationary head,
geared, geared tapping attachment, back geared.
arranged for motor drive. Quint, 6 spindle, turret.

GEAR CUTTERS.

33x9 in. x 4 p. Gould & Eberhardt. 50x11 in. x 3 p. Gould & Eberhardt,
48x10 in. x 3 p. Gould & Eberhardt. (2).

GRINDERS.

Heald American BTA, point and Yankee PO, drill grinder.
drill grinder. No. 1 Leland & Faulconer, wet tool.
Yankee A, drill grinder. No. 2 Leland & Faulconer, wet tool.

ENGINE LATHES.

14x8 Flather, 4 step cone, belt feed, elevating rest.
16x6 Reed, 4 step cone, belt feed and plain rest.
16x6 Lodge & Shipley, 4 step cone, compound rest, quick change gear.
16x16 Prentice, 4 step cone, double back geared, compound rest.
20x8 Flather, 4 step cone, belt feed, compound rest.
20x8 Flather, 5 step cone, belt feed, compound rest.
22x12 Lathe & Morse, 4 step cone, belt feed, compound rest.
24x12 Lodge & Shipley, 5 step cone, compound rest, quick change gear (2).
26x12 Reed, 5 step cone, belt feed, compound rest.
52x17 Nondescript, 5 step cone, belt feed, compound rest.

PLANERS.

10 in. Busch, crank, with swivel vise. 36x36x10 Gray, 1 head.
20x24 Wheeler, 1 head. 54x54x16 Nondescript, 2 heads on
24x24x6 Whitcomb, 1 head. rail.

SHAPERS.

15 in. Smith & Mills, single geared 24 in. Walcott, shifting belt.
crank (2). 26 in. Cincinnati, shifting belt.
15 in. Hendey, friction. 28 in. Hendey, friction (3).
16 in. Gould & Eberhardt, crank. 34 in. Walcott, shifting belt.
20 in. Hendey, friction. 34 in. Gould & Eberhardt, crank.
24 in. Gould & Eberhardt, crank.

TURRET LATHES.

No. 1 Warner & Swasey, hollow 22 in. Universal, chuck fitted.
hex., motor driven. 22 in. Bullard, comb., chuck fitted.

MISCELLANEOUS.

Polishing lathes, No. 3 Diamond (2). Hammer, 60 lb. Bradley, cushion
Centering machine, 5 in. Whiton, 2 helve.
spindle

SECOND-HAND MACHINERY

FOR SALE BY

The Patterson Tool and Supply Co.,

Dayton, O.

LATHES.

9x25 Sebastian, ck. and countershaft.
13x6 Pratt & Whitney, plain elevating rest and taper.
15x8 Porter, rise and fall rest.
16x6 Blaisdell, rise and fall rest.
16x6 Reed, compound rest, new.

16x6 Reed, comp. r. and taper, new.
18x10 Dietz, Schumacher & Co., taper, chuck.
24x16 Schumacher & Boye.
24-30x14 Schumacher & Boye.
30x18 Lowell, compound rest.

SHAPERS.

12 in. Fitchburg.
16 in. Ohio, back geared crank (2).
16 in. Kelly, back geared crank.
20 in. Kelly, back geared crank.

22 in. Ohio, single geared crank.
26 in. Kelly, back geared crank.
26 in. Walcott, geared.

MILLERS.

No. 00 Owen, hand.
No. 14 LeBlond, universal (No. 23).
No. 18 Garvin, universal, new.
No. 2 Garvin, universal, new.

No. 2 Garvin, plain.
No. 3 Chicago.
No. 4 Burke.

SCREW MACHINES.

No. 2 Foster-Kimball, new.

No. 140 Wells, $\frac{1}{2}$ in., new.

PLANERS.

16x16x3 crank planer.
19x19x14 planer.

24x24x6 Pond.
48x48x22 Hamilton, 3 heads.

PRESSES.

P3 Ferracute.
3A Willard.

No. 1 Consolidated.
No. 10 Bliss, power.

DRILLS.

3 spindle A Barr.

4 spindle A Barr.

MISCELLANEOUS.

Plating dynamo & base, 400 ampere,
Zucher & L., fine cond., \$160.
Pipe mach., $\frac{3}{4}$ to 6 in., 205-A Oster.
Recorder, 260 key, Bundy.

Saw table, No. 3 Crescent, double revolving.
Squaring shear, 30 in. Hercules.

We invite correspondence from buyers or sellers.

The Peculiar Value

of Hitchcock's Machine Tool List as a medium of advertising is due to its country-wide distribution to machine tool users. It goes every month into the offices of thousands of concerns, large and small, where no other advertising in this line is received, and to other thousands where the advertising reaches only the men in the shop—not the one person, which there usually is in every concern, who finally decides, and commonly initiates, the purchase of needed equipment. The advantage, indeed the necessity, of drawing his attention to the merits of one's products, should not be overlooked by the up-to-date advertiser; and the medium which accomplishes this more thoroughly than any other, or for that matter, all others combined, is the convenient compendium of machine tool information in which these remarks are printed. The Tool List is as modern and effective in its way as your machines, representing as great an improvement in advertising practice as your own tools do in machine shop practice.

The New Drop Hammer

THE B. & S., MODEL C.

has improved board clamp at extreme top of hammer away from oil. Improved bronze bearings on friction rolls that are easily removed and replaced. True alignment of rolls is always preserved. All adjustments are made from the floor. Improved form of upright, and other new features.



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Billings & Spencer Co.**
HARTFORD, CONN.

THE LODGE & SHIPLEY MACHINE TOOL CO.

Offer at a bargain the following tools, some of which are NOW IN USE in their own shops:

LATHES.

- One 24 in. x 8 ft., 4 step cone, q. c. g., turret on cgge., Lodge & S.
- One 30 in. x 10 ft., 5 step cone, triple gear, Lodge & Shipley.
- One 30 in. x 18 ft., 5 step cone, quick change gear, Lodge & Shipley.
- One 34 in. x 60 in., Lo-swing, Fitchburg Machine Works.
- One No. 3 rapid reduction, 8 ft. bed, Lodge & Shipley.
- One No. 3 double head axle lathe, Lodge & Shipley.

TURRET CHUCKING LATHE.

- One 30 in. x 8 ft., 4 step cone, power feed turret, Lodge & Shipley.

PLANERS.

- One 36x36 in. x 18 ft., 3 heads, Sellers.
- One 36x36 in. x 26 ft., 4 head, Sellers.
- One 42x42 in. x 20 ft., single head, Putnam.

MISCELLANEOUS.

- One Andrews adjustable multiple spindle drill, 11 spindle.
- One No. 2 Catlin keyseater.

The Lodge & Shipley Machine Tool Co.
CINCINNATI, O., U. S. A.

Just The Thing

Mounted vise and bench, ready for service
as soon as fastened to floor



A 5-inch vise on a rigid tripod base, and furnished either with or without the bench or tray shown. Not too much metal, to make it unduly heavy, but enough to stand chipping and bending to the limit of vise capacity. No joints to work loose; stands firmly on any floor, even or otherwise; takes minimum shop space; vise may be any type user prefers.

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